



# AMERICAN *Bee* JOURNAL

January

1961

Vol. 101

No. 1

**For Success in 1961**

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PAYS OFF**



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# The American Bee Journal Hamilton, Illinois

Vol. 101, No. 1

January, 1961

Editor—G. H. Cale  
Associate Editors—M. G. Dadant,  
Roy A. Groot

Published monthly at Hamilton, Illinois.  
Entered as second-class matter at the Post  
Office, Hamilton, Ill. In the United States,  
and Canada, \$2.50 a year; two years, \$4.50;  
three years, \$6.00. Foreign 50c a year extra.  
Subscription stopped at expiration date  
printed on wrapper. Available on microfilm  
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## Our Cover Photographer

TREAT DAVIDSON

A free lance photographer who works primarily for the National Geographic Magazine. He had a story with pictures in the Geographic for August, 1959, Inside the World of the Honey Bee. Some of our cover pictures for 1961 were taken in connection with that work. Also his photographs have appeared in leading magazines in Australia and throughout Europe—Illustrated London News, Life, Saturday Evening Post, Popular Photography; also his work appears in natural history and fishing magazine. Two stories by him were in ABJ this past year—Bears and Bees in September and The Good Samaritan in December. The cover picture this month was taken in a section of a bee tree with honey inside. An electric eye beam across the opening was timed with the camera shutter. The bee flew in and took her own picture.

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LOUIS L. COUCH Pincville, La.



# January Contents

Our Cover Photographer—Treat Davidson . . . . .	4	More Efficient Frame Assembly—Joe Robbins . . . . .	15
Contents for January . . . . .	5	The Care of Bees—Richard Taylor . . . . .	15
Al Jones, Sideline Editor . . . . .	6	Successful Lecturing—John H. Furber . . . . .	16
Methods of a Small Beekeeper—George Zeitler . . . . .	6	Editorial for January, The New Farm Program— Roy A. Grout . . . . .	17
A Test for Honesty—Carson Brewer . . . . .	7	The Analysis of Mixtures of Beeswax and Petroleum Waxes—Johnathan White, Jr. and Irene Kushnir . . . . .	18
Multiple Queen System—Marvin Bolstad . . . . .	8	Crossword, Scramble, and Recipes—Pat Diehnelt . . . . .	22
The Double Screen—Henry Wood . . . . .	8	Your Questions Answered—W. W. Clarke, Jr. . . . .	24
Queen Supersedure—D. Demko . . . . .	9	Meetings . . . . .	25
Warbling Tells when Bees are About to Swarm . . . . .	9	Advertising Index . . . . .	33
Ten Million Workers—R. A. Wentz . . . . .	10	Crop and Market—M. G. Dadant . . . . .	38
Wholesale Stinging—E. G. Stowell . . . . .	13		
Management of a Retired Backlotter— R. N. Crawford . . . . .	14		

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# The Sideline Producer

EDITOR, AYLMER (AI) J. JONES

34 Chandler Road  
Malden, Mass.

Al is 50 years old, married, has three children. He is a commercial loan officer in a suburban Boston bank. He has been interested in bees since he was 14. Now president of the Essex County (Mass.) Association, an avid supporter of the Eastern Apicultural Society and active in the Middlesex County Association. He lives in a city of 60,000, five miles from Boston, but gets good crops nevertheless. Keeps his bees down to 15 colonies and aims at 1000 lbs. of honey a season, all sold at retail. Rents for pollination in emergencies.

Al will have two issues this year devoted to about three times the normal space for his department. The same will be true for the commercial department; and for science; at least one long industry department and one long one for marketing. There are other new things planned also so we hope you really like ABJ for 1961.



## Methods of a Small Beekeeper

by George I. Zeitler

If your method of keeping bees gives you satisfaction, stay with it. Your bread and butter does not depend on your honey crop, so you are privileged to find out a lot of things by trial and error.

Your location may be a little different from that of the writer in some ways, or it may be vastly different. I live in north central Pennsylvania but climatic conditions require me to keep my bees under the same conditions that exist at North Bay, Ontario. Methods that work well in other parts of the State are impractical and sometimes impossible to duplicate here, on the top of the Appalachian plateau, where I live.

In choosing a location, I look for one between 100 and 150 feet above the surrounding valley land and on the southeast slope of a hill. The reason is because summer and autumn fog covers the lowland for about three hours after the higher ground has had clear sunlight. Where the flying weather is limited to about 70 days, three hours in the morning makes the difference between a crop and no crop.

All hives face east. My experience has been, that the morning sun shining in the open entrance of a hive has the bees out and flying at least an hour before they fly from a hive, on the same location, but facing in any other direction.

In winter on this location the prevailing winds from the north and west

usually have the hives on the southeast slope covered with snow by the fore part of December and they remain buried in snow until about the last of March. *That makes for good wintering, as a few inches of snow is much better packing than a foot of straw.* A top entrance is a necessity with the bottom restricted to keep out mice.

Which bee shall we use? Most writers and advertisers proclaim the Italian as the universal bee. I once had 120 colonies of them. Ten years ago I had five, one in each yard, as checks. Five years ago they were all requeened with Caucasians. The Caucasian consistently outproduced the Italian by about one-third. The Italian was about two weeks later than the Caucasian in starting brood rearing and did not build up nearly as fast. The Caucasian flies at several degrees lower temperature than the Italian and that makes a difference when the summer morning temperature is generally between 45 and 50 degrees. The Caucasians build up on the light flows and are supered early, while the Italians mostly build up on the clover flow.

### Spring Management

I winter each colony in two bodies and about three weeks before fruit bloom all bodies are reversed and an excluder placed between the bodies. Queens are ordered for mid-fruit bloom arrival. Taking a super and queen for each colony, I check the top

body, hoping to find no signs of the queen (she should be in the bottom body). I lift the top body off, and put on the super over the excluder. Now the escape board, with the opening double screened, goes on top of the super. On top of this goes the top brood chamber, with wedges on top of the escape board too for a top entrance between the escape board and the body. The queen is placed in the top body using a modified Ed. Anderson (Penn State) introducing cage. Acceptance is about 90%. Most of the field bees that are in the top body when the change is made return to the bottom body, leaving the new queen and nurse bees in the top body.

When the main honeyflow comes on, the top body is set aside, super and excluder removed from the bottom body. Then the top body is replaced on top of the bottom body, the excluder on top of it and the supers placed above. Put the escape board in proper place and close the hive.

Due to the screened hole in the escape board being used as a bottom board, there is no fighting when the bees are put together. The bees choose between the two queens. The colony has been run as a two queen colony for about a month and the build-up is good.

I extract from the brood combs. When the basswood flow comes, I cut down to a single brood chamber. Basswood is my best selling honey and I want as much of it as possible

in the supers, placing the extra brood chamber on top of the supers. This brood chamber, two years ago served as a food chamber, last year as a brood chamber and now as a super. At the end of the flow it will be taken to the honey house and all the combs extracted. The poor ones will be discarded, the good ones placed in another body and returned to the bees during the goldenrod flow to serve as a food chamber the next winter. This way all brood combs are culled every second year. Most summer honey is removed by acid, and fall honey by escape board.

#### Disposing of the Crop

Selling is one of the real kicks of beekeeping. In my estimation there is not a backlotter or sideline that could not sell twice as much honey as he can produce. Put out a real

product, keep it that way and then apply the gift of gab. Every one has it more or less, so use it. There are a lot of free meals and lunches around for the taking. Rotary, Kiwanis, Lions Clubs, Garden and Study clubs, P.T.A., all looking for speakers and in return you get a good dinner or an evening lunch. I have appeared before one men's group on eight different occasions.

When you are extracting, see that all bees are out of the honey house. Then call the school principal and tell him that your place will accommodate one grade and their teacher at a time. Get a few loaves of bread, some butter and a toaster. Lay out a good slab of honey and they will take care of the rest. Fill the grocer's shelf before you do this as it is odd the influence kids have over their mother

when it comes to what they want to eat.

These ramblings are just some of the tribulations of one unregimented backlot beekeeper, who studies the workings of others, adopting some after a trial, but discarding most, occasionally having a brainstorm of his own, of which forty nine out of fifty are duds. But that one may be the one that hits the jackpot.

That I keep bees under a climatic handicap is verified by that amiable gentleman, Mr. W. W. Clarke, of Penn State, Extension Specialist and Editor of the beginners department in A.B.J. After two visits at my place, he turned a jaundiced eye on me, and without a smile remarked, "Anyone who tries to keep bees on these frost bit hills is nuts."

Duke Center, Pennsylvania

## A Test For Honesty

by Carson Brewer

Knoxville Tennessee News Sentinel

Are people becoming less honest? Kermit Caughron will tell you that we are sliding in the wrong direction. He has an unusual test, and a good many have failed it.

Kermit is a farmer and a beekeeper in Cades Cove, a place of quiet beauty surrounded by lofty mountains in the Great Smoky Mountains National Park. He owns 117 colonies of bees.

His bees forage on sourwood, basswood and tulip poplar and they make money for Kermit and his family—anywhere from \$500 to \$1500 a year.

Honey selling for Kermit used to be a simple operation. He would put several jars of honey on a stand by the side of the road and also he would put out a money jar. A sign told customers that the honey cost \$1 a jar. They put as many dollars in the money jar as they took jars of honey. This is an honor system and it worked fine as long as people were honorable. But honesty somewhat went to pot about three years ago.

Thieves started stealing the money jar so Kermit made a change. He discarded the jar and in its place he used a big beehive and filled it nearly full of sand and rock, leaving a little shallow space at the top for the money which is dropped through a slit. This "cash box" weighs more than 200 or 300 pounds. However, even it was taken once.

Of course, a man can expect some thievery. There always has been a percentage of outright crooks. But

what about normally honest people? What will they do when given a chance to be just a little crooked? Kermit says they used to resist the temptation to beat his honor system. Now, many of them don't. They stop their cars, look at his honey, read the sign, have a brief wrestle with their conscience and take a jar of honey but they leave no money.

This has been embarrassing for some, for Kermit has worked out a plan to beat the people who try to beat the system. There is one big beehive near the money stand that doesn't have bees in it. It always has Kermit in it and has a worm hole through which Kermit's blue eyes get a straight shot at that slit through which the customers are supposed to poke their money. And if they don't, they hear Kermit's voice and see his sandy head rising out of that empty hive and they know they've been caught trying to beat the system.

It must make a person feel sheepish to get caught in such an act. He once caught a Boy Scout doing it. Once a woman who was caught faked a heart attack.

Up until the present, it has always made me feel a little better to drive to Cades Cove Road, to see the loveliness of the land and see Kermit Caughron's honor system in the honey selling business. Here I thought was proof that nearly everyone is honest but now I cannot feel that way any more.



# Multiple Queen System

by Marvin Bolstad

Our problem in northern Minnesota as I see it is how to get a strong colony ready for the main flow about July 1st. Ordinarily, we order package bees to arrive about the first of May at a time when brood rearing is discouraging in a small unit.

I tried about April 1st using two 1-pound packages of Midnites over a thermostatically controlled heating system, setting the controls at 85 degrees and each queen started to lay right away.

However, the temperature fluctuated so much I put two colonies of Italians over the top. Each story has a  $\frac{1}{4}$ " screened spacer with its own apron and entrance in place of the regular bottom board.

There was an appreciable leveling off of temperature. Before the addition, the temperature in one unit ranged from 50 to 95 degrees. After the addition, the temperature in the lower unit ranged from 70 to 90 degrees; in the middle unit from 80 to 95; and in the top unit from 85 to 95. The thermometers used were dial type with the stem inserted through the hive body and spaced between the lower edges of the frames.

All of these observations were made the first two weeks in May while each colony had only one body. The queen in the middle one disappeared after the third week and the bees joined the top and bottom colonies. Then I noticed a sharp rise in temperature so I discontinued the heating system and added another brood chamber to each of the remaining two colonies. Then

the temperatures of the lower one returned to 70 to 90 with the outside temperature from 45 to 75; the upper chamber returned to 85 to 95.

The bees seemed very content with this arrangement. The heavily loaded Italians sometimes do land on the lower apron and walk in unchallenged. Some of the Midnites are also to be found in the upper chamber, maybe because it's warmer. I practice Demareeing religiously, and because of the supers below them, the emerging Midnites are closer to the Italian queen above and may consider her their queen. However, there is no fighting at the entrances of either and no sign of robbing.

I use a screened inner cover for ventilation and have the outer cover resting on wooden blocks. I also stagger the bodies to minimize fanning. After the hot weather came, I kept the top and west side of the hive shaded.

Because of different operating levels, staging at the different levels should be provided when the hives are examined. Otherwise, there is too much confusion among the returning field bees. I provide an extra bottom board at the same level; and alongside the top hive, I provide a bottom

board. When I reach the bottom hive, I place another one in front of the regular board. Because the regular aprons have their distinctive markings, the extra bottom boards have similar markings. As a result, I use very little smoke and can examine the whole hive (two stories) without veil or gloves.

International Falls, Minnesota

## The Double Screen

by Henry Wood

It seems to me very little has been written about the double screen although it is one of the most versatile items.

It is simply a frame made of wood about  $\frac{1}{4}$ " x  $\frac{1}{4}$ " to fit the top of the hive on which it is to be used with ordinary window screen tacked to both sides of this frame.

It may be used satisfactorily in requeening without dequeening. To do this, place the double screen on top of the hive to be requeened and in a super above the screen, place a few combs of brood and bees with plenty of stores and in a few days insert a ripe queen cell. The bees will do the rest. The entrance in the super above should be in the same direction as the hive entrance. When the new queen is laying, kill the old one in the hive below and replace the screen with a piece of newspaper, just as in uniting two colonies.

For overwintering fall queens, place the young queen in a nuc above a strong colony above a double screen with plenty of stores. The next spring the nuc will have become strong and may be used the same as any colony of similar strength.

For drawing queen cells, fill a super

## Like the Bees We Work for Others

DR. FRANCIS O. HOLMES  
Slogan Contest Winner

## Some Old Time Items



Henry Vail, Riverhead, N.Y., donated these old timers to the Suffolk County Historical Society—a tree in which a swarm built in a bird hole (left); a log gum made by a Polish farmer; a skep; a box hive made by a Russian Pole.

## I Like Grandpa's Honey



So says Danny Kirchner, grandson of Harold C. Smith, Spring Valley, Minnesota. Many parents give young children honey but they also pour sugar into them in various ways. Few give them squeeze bottles of honey and let them consume what they want.



with combs of brood and bees and place it over a strong colony above the double screen. The bees will then draw queen cells. Many more cells will be obtained with this management than would be obtained with a separate colony, especially during cold weather as they utilize much of the air conditioning furnished by the colony below.

A general queen reserve may be maintained above double screens at

any time. As time and experience goes, many other uses may be found for this item.

In general, the entrance in the super above the screen should be in the same direction as the colony below if you want to unite the bees with the colony below or drain off the old field bees. Otherwise, the entrance should be in the opposite direction.

Porterville, Cal.

## Queen Supersedure

by D. Demko

*Queens are superseded when they fail to lay a sufficient number of eggs to maintain a strong colony.*

This theory seems to be consistent when we consider the fate of drones at the close of the season and the fate of worn-out or ragged bees. If bees cannot contribute to the strength of the colony, they are discarded. When we consider the queen, obviously she is superseded because she is not producing rapidly enough or she is beginning to fail in egg production.

*Another possibility of supersedure may be due to instinct or environment.*

For example: the first year a colony is established it is small and relatively weak. During the second year, under optimum conditions, it is strong and large and in a "state of prosperity."

Therefore, it only seems natural for a colony to divide and reproduce itself. Not only must the bees survive

but they must provide colonies to reproduce and expand the species. In the second year, therefore, we find that the swarm is weak and the parent is weak. If there has been no swarm, the original colony is also weak and in a state of depression.

Therefore, supersedure results often in the formation of two colonies instead of one and then the two weak colonies continue the cycle again in order to reproduce and multiply in their turn.

In short, strong colonies induce supersedure as a method of propagating more strong colonies. Whether or not a colony will divide into two colonies, therefore, depends on the old queen. If the old queen is weak and failing, she may be killed in one way or another. Only one colony will survive and have its chance to become stronger in its turn to propagate more colonies.

Urbana, Illinois

## Warbling Tells When Bees Are About To Swarm

J. A. Keho of Tacoma, Washington sends a copy of the May 28th issue of *Science News Letter*, a science service publication edited by Watson Davis, published every Saturday at 1719 N. St., N.W., Washington 6, D.C. This is a highly recommended publication.

In the particular issue mentioned is the following item:

THE WARBLING of bees in a hive can be used to predict when the colony will swarm some 15 to 25 days before the actual swarming, an English scientist has found.

E. F. Woods of Surrey, England, has developed a method for electronic prediction of swarming in bees based on the sounds they emit. Normal bee sounds range from 160 to 600 cycles per second, within the range of human hearing.

Mr. Woods found that a warble in the range of 225 to 285 cycles per second and a drop of 10 decibels from normal daytime intensity of the sound signaled the approach of swarming. These changes can be detected by electronic means and used to predict future swarming, according to a report in the *Journal of the Acoustical Society of America*, 32:518, 1960.

The device developed and patented by Mr. Woods to do this job is the "Apidictor." There are some 10,000,000 colonies of bees throughout the world, more than half of them in the United States. One method now used to predict imminent swarming is to examine each hive about every ten days from mid-April to mid-July for signs of queen cells.

This "Giant" Scare You?



A picture taken by Ben M. Knutson, Alamosa, Colorado, whose almost professional bee pictures have often been seen in ABJ. He calls this "a bee on guard." If you were a robber this fierce defender of home and honey stores would perhaps send you flying.

Twelve Years in a Barn



Dearl Hathaway, Santa Fe Spring, California, pictured these bees as they were after being exposed in the side of a barn where they had been for twelve years. There were ten layers of combs between the studdings, about four feet long and six inches wide.

# Ten Million Workers

by R. A. Wentz

One of the ancient philosophers is said to have first advanced the theory that the mental and physical inclinations of a person can be accurately read by observing what he does with his hands. Folding the hands is said to indicate complacency, putting the hands in one's pocket shows indifference, wringing them means despair, and putting them to a job that needs doing indicates 'busy-ness' with the affairs of this world. May we warn the novice beekeeper that to successfully carry on the type of sideline operation described in these columns, there will be little chance to fold the hands in complacency or put them into pockets (except maybe to warm them briefly on a cold Saturday morning). True, there may be times now and then when we're inclined to wring our hands in despair, but generally there are so many jobs that need doing our hands are seldom in repose.

The writer has for 27 years served the public schools of south-central Pennsylvania as a teacher and administrator, and as such is either on full-time duty or on call for better than 10 months of the year. The sideline operation of bees began as a hobby in 1943 with the purchase of one hive of bees for \$6.00. With the exception of the war years from 1944-46, when the author served with the Army Engineers in the Pacific, this venture has continued to grow, until this past season the operation included 224 colonies, located in 35 yards scattered in fields, orchards,

and farmyards within a 20 mile radius.

The aims of our avocation have always been:

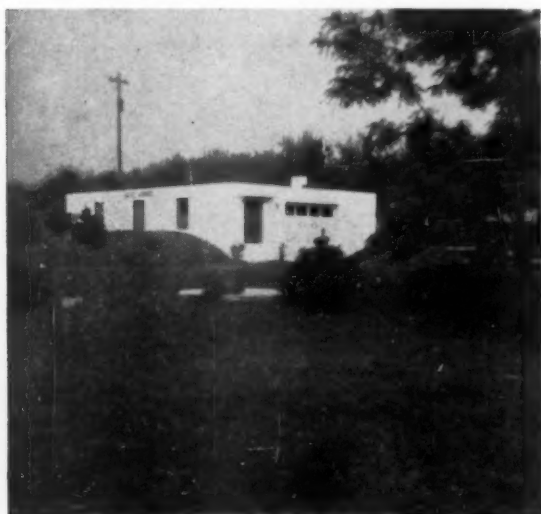
1. The provision of a diverting outdoor activity to afford relaxation from the necessarily confining and demanding nature of work in the public schools.
2. The encouragement of the use of honey in the home.
3. The spreading of the gospel of honey bees for pollination.
4. The caring for some of the many hives of bees which dot the out-of-the-way corners of the countryside, which would otherwise remain neglected by well-intentioned but uninformed beekeepers, who may once have been ardent enthusiasts, but who because of stings or apathy left the bees for other interests.

Attention is directed to the fact that the amassing of wealth is not included in these aims. Beekeeping in our section of Pennsylvania is excellent for a hobby, but not generally rewarding in a monetary sense. Our pastime has always paid its own way, but aside from therapeutic and aesthetic benefits, the returns are oftentimes meager.

Our system of beekeeping is based entirely on the production of extracted honey in shallow frames. We long ago gave up trying to produce acceptable section honey. We use mostly 10-frame equipment, but find that the 8-frame hives which comprise a few of our yards do as well as,



if not better than, the larger units. Most of our 34 outyards are in apple orchards, lima bean fields, or farmyards, and range in size from 1 to 25 colonies. The orchardists and farmers, for whom we work these bees, pay a nominal annual per-colony fee in return for crop pollination and any honey crop which may accrue. We always provide a table supply of honey, no matter how short the crop. Instead of moving bees for pollination, we try to maintain permanent stands near the orchards and fields, thus avoiding the unpleasant chore of hauling bees under all sorts of adverse conditions, e.g.: cool damp April weather, or hot nectarless July nights when the bees with mean dispositions, usually cluster outside the hives, looking for likely victims. Then, too our limited time makes it imperative that the bulk of our work be done during a very short 8 weeks, in the summer and week-ends throughout the spring and autumn. We try to check each outyard at least every 4 weeks - bi-weekly in May and June, and only



Twenty by forty foot honey house completely equipped.



Spacious lawn, trees and shrubs are Mrs. Wentz' pride and joy.



Colony on scales shaded by trellised vines.

once or twice during the winter months. Our vehicle is a Jeep panel truck and we find this quite satisfactory for negotiating wet fields, woods, orchards, and other inaccessible terrain.

Obviously, some kind of record-keeping becomes necessary in this type of set-up, and we've evolved a system whereby each hive is numbered to correspond to a series of cards on which are recorded such data as:

- Age of colony
- How acquired
- Requeening records
- Location of colony
- Inspection dates
- Condition of bees
- Honey harvested

The base of operations of the Wentz Apiaries is a 3-acre home bee yard, where we usually keep from 25 to 30 colonies for making divisions, rearing

queens when time allows, and keeping a check on conditions prevalent in our section of the country. Here also is located our 20' x 40' honey house, built partly underground of blocks, with a 6" slab of reinforced concrete for the roof - this latter intended to serve as the floor of a second story to be added at some future date.

The building is complete with deep well water system, automatic oil heat, small bottled-gas steam generator, 45 frame radial extractor (1900 vintage) powered with a Briggs & Stratton gasoline engine, a honey pump, steam flash heater, electric tank heater, 2 smaller extractors, and various sized settling tanks.

The grounds surrounding the honey house hold considerable interest for the nature lover, since they have been planted with something over a thousand trees and shrubs, made up of some 80 species, with emphasis on nectar bearers and evergreens of the Christmas tree varieties. This arboretum contains about 30 kinds of plants attractive to bees, including: basswood, sourwood, Chinese Evodia, locust, tulip poplar, dogwood, holly, maples, redbud, sumac, white clover, bird's-foot trefoil, and sweet clover. The spacious lawn, the trees and shrubs, and the barbecue spot are Mrs. Wentz' pride and joy.

We harvest honey almost exclusively by the shaking method, but have also used bee escapes, acid boards, and compressed air. We aren't too concerned about bringing a few bees into the extracting room, since screened windows, each with a wire-cloth cone escape, take care of any bees which remain in the supers. We use a steam plane for uncapping

during the working season, and have an electric knife for use with smaller lots of honey.

Our product is sold under our own very simple labels, printed in four colors. Green label indicates a blend of our own amber grade with lighter grades from out-of-state. This blending is done for us by the Dutch Gold Apiaries of Lancaster, Penna., who at the same time heat the blend to 150 degrees, filter, and then bottle it ready for sale. A brown label is used for our own product, heated to 150 degrees, strained through nylon, and sold as Wild Flower Honey. Blue label is the natural raw sweet as it comes from the extractor, complete with bits of comb, and pollen. This is in some demand in our locality by natural foods enthusiasts who want to be sure to get all the innate goodness which might be impaired by excessive heating, and prefer a little protein with their sweetening.

We process only a limited amount of Creamed Honey, which is the pure product, seeded with fine crystals, and then allowed to granulate at about 57 degrees. This is packed under a red label. We do no direct advertising, but try to encourage the use of honey and boost interest in bees, by these means:

1. Make available American Honey Institute leaflets to customers and include a recipe folder in every case of honey sold wholesale.
2. Be liberal with free samples of honey.
3. Be available for lectures and demonstrations before civic and fraternal groups.
4. Subscribe to the trade journals for public libraries and doctors' waiting rooms.



Part of honey handling equipment, radial, honey pump, flash heater, tanks.



Three of the Wentz family demonstrate the solar wax extractor.



## 10 Million Workers—Wentz

5. Make our facilities available to 4-H, Scout, and school groups for field trips and educational visits.

We are firmly convinced that a number of recent best-selling books advocating the use of honey for health reasons have done more to increase the sale of honey than any other factor since World War II.

Our product is moved out through four channels: Fruit stands, stores, sales from our home, and mail orders. We do no soliciting of any kind, but try to always make available a package that is attractive. We believe with one of the nation's largest candy manufacturers who never advertises, that uniform production of a quality product is really the best sales technique yet devised. We heard of a contractor some time ago, who was inspecting a row of newly-built houses in a project which he was developing, when a workman rushed up to report, "Sir, No. 14 just fell down."

"The fools!" replied the contractor. "I told them not to take down the scaffold until the house was painted."

We think that this illustrates quite well the tendency now-a-days toward poor workmanship and shoddy products. We in the honey business can do no less than see to it that our product always reaches the consumer in top-notch condition.

In the last 8 years we have had 13 cases of American foulbrood. Since we worked an average of 192 colo-

nies annually during each of these years, we feel that this is not a high incidence of disease, and even though we have successfully treated infected colonies with drugs, we still believe that burning is the best policy. We always salvage usable hives by scraping them thoroughly indoors, charring them with a blowtorch, and painting inside and out with two coats of paint.

Two years ago we had another type of misfortune, when 2 colonies located under a very tall tree near lima bean fields literally burst open when struck by a bolt of lightning. The bolt first struck the tree, then apparently jumped to the metal covers of the hives, and from there entered the ground. Oddly enough, the bees survived, but the hives were a mixture of melted wax and splintered wood, most of which had to be replaced.

Among the "gimmicks" which we have come to use over the years are these:

1. Instead of regular entrance cleats, we use a 2" strip of  $\frac{1}{4}$ ,  $\frac{1}{2}$ , or  $\frac{3}{4}$  inch square mesh poultry wire stapled over the entrance of each hive to exclude mice. This can be left in place the year-round, and still does not interfere with air movement so necessary to honey curing and bee well-being.
2. We use a machete-type corn knife as a hive tool. It serves very well as a pry, a tool for removing burr comb, and is quite handy for cut-

ting weeds and grass from in front of hives.

3. We extract most of our wax from cappings and old combs by means of a solar extractor, but have found that we can also do the job in winter by using three 500 watt heat lamps - one underneath, and two focused on top of a slanted metal tray.
4. One of the handiest gadgets around our shop is an ordinary hand stapling gun which takes staples up to  $\frac{1}{2}$ ". We use this to fasten top bar wedges in frames, to staple entrance closures in place, and even to prepare hives for moving, by stapling supers to hives, and hives to bottom boards.

We heard the other day of a college student who was short of money and took a part time job in a zoo, where he wore the skin of a monkey that had died suddenly, and with suitable maneuvers impersonated the ape during week-ends to amuse the zoo visitors. On Sunday afternoon he overdid his antics and fell over the fence into the lion's cage. After several attempts to scale the fence, he shrieked, "Let me out! Let me out! Save me from the lion!" Whereupon the lion, after rushing upon him, muttered, "Shut up, you fool, or we'll both be out of a job."

The moral, Mr. Editor, we'd better draw this story to a close, or we'll both be out of a job.

Spring Grove  
Pennsylvania



**Bees go to Church**

This picture from a subscriber in Alberta proves that bees know a safe retreat when they find it. This swarm clustered in the oval window at the roof peak, just under the cross. Whether they were made welcome remains a question. Maybe they stayed for one church service.



**Equipment in Repair Pays for Itself**

So says Laford B. Tuttle of Winston Salem, North Carolina. This is a self-portrait, employing the use of a special camera attachment. The expression on his face indicates the anticipation of a profitable return. He says, "Be ready for next year. It bee later than you think."



# Wholesale Stinging

by E. G. Stowell

This account of wholesale stinging may be interesting and may encourage others not to be afraid of an occasional sting unless they are allergic.

About two years ago I made a deal with the owner and manager of a citrus orchard to put a colony of Italian bees in the orchard to help in his pollination. He wanted to have them and asked me to telephone to him before I brought them out, since he wanted to show me a special place for them in the orchard.

Therefore, the previous evening, I stapled the hive and supers together, screened the entrance after dark, tied a rope sling around the colony and was ready to move them. Early the next morning I phoned him at the ranch, but I couldn't reach him until about 11 o'clock. Then I drove out with the bees, found the owner, and shortly I was unloading the colony.

The owner and his young son, both in Bermuda shorts, were watching the proceeding with interest from a nearby point. I warned them the bees would come out roaring since they had been shut up since the evening before, a lapse of about 17 hours.

Meanwhile, I had donned my helmet, my veil and my gloves but I had not bothered to put on my zipper coveralls.

When I finally joggled this two-body colony and three supers, all stapled together, into position over some rough orchard ground, the bees did not seem to be improving in disposition. My plan was to rip off the screen, run for the car, about 75 feet away. So I called to the owner and his son to go back to the house. However, they still stood at a little distance and watched.

Well, up to that point my well-laid plan was going ahead with precision. The big hole in the entire idea was my own carelessness in dress. I ripped off the screen and ran for the car, but the bees got there first and with a roar like thunder those bees covered me like a cloud. The last thing I saw of the owner and son was to note that they were disappearing toward the house, yelling and slapping at their bare arms and knees, slapping at their heads and apparently not caring to watch the rest of the performance.

And what those bees did to me—Well, "to a dog it shouldn't happen." They found the openings in my cuffs, they found openings between the buttons on my shirt, they covered my pant legs like locusts in a garden patch. I estimate several hundred bees found their target. For some

reason or other, I didn't take time to call the roll but just started the car, trying to scrape off some of them from my legs.

I drove out to the highway, but found my vision disappearing. I seemed to be driving into a brown blanket about a hundred feet away. I parked the car on the shoulder and lay back to watch developments. The stings were old stuff in small quantities on previous occasions, and these did not seem to bother me too much. In a rather detached fashion I looked at my wristwatch and realized that if I passed out some passing driver would notify the sheriff's office that there was a drunk in the car at the side of the road. My mouth became so dry that I couldn't have spit cotton. My pluse remained about normal, so I didn't worry too much. I began to itch all over, principally on the soles of my feet, the palms of my hands and on my scalp. I watched my pulse rate, to detect any effect on my heart, but it remained steady.

In about thirty minutes my vision started to improve. Shortly I could see cars approaching and in about fifteen minutes more I was able to start the car and drive slowly home. My vision kept improving. When I reached home I merely lay down on my bed and experienced pronounced itching for most of the afternoon on the soles of my feet, the palms of my hands and my scalp.



**Small Honey Sections**

Ever try to produce small sections like these? It takes skill and some manipulation and colony selection, along with a good flow that will yield nice, white honey. But as for the market, there is seldom any trouble in disposing of them. (Source of photo unknown)



**Don't Fence Us in**

Maybe that's what these bees are thinking because they found a nice spot among tree branches to begin housekeeping. They needed no frames as they made straight combs without them. Will they last the winter? Sometimes they do. (Source of photo unknown.)

## Wholesale Stinging—Stowell

There seemed to be no after-effects of the stings except perhaps my immunity was reinforced by the stinging of these several hundred bees. I still suffer less from bee stings than from a mosquito bite. I think that I got

such a massive dose of venom that it defeated its purpose.

I do not recommend carelessness, however, in handling bees to anyone. All I can say is that an angel must have been sitting on my shoulder that morning.

Tucson, Arizona

above the bottom board about two inches by placing a couple of 2 by 2s across at front and back during hot weather.

At the end of the season one can pick the best queen and shake the bees from the other hive through the funnel, eliminating the unwanted queen, and placing the emptied hive on top for the winter.

When a hive swarms out with an unclipped queen I always run the swarm through this queen-catching funnel into a hive and after picking up and caging the queen, dump the bees out of the hive. Without a queen

## Management of a Retired Backlotter

by R. N. Crawford

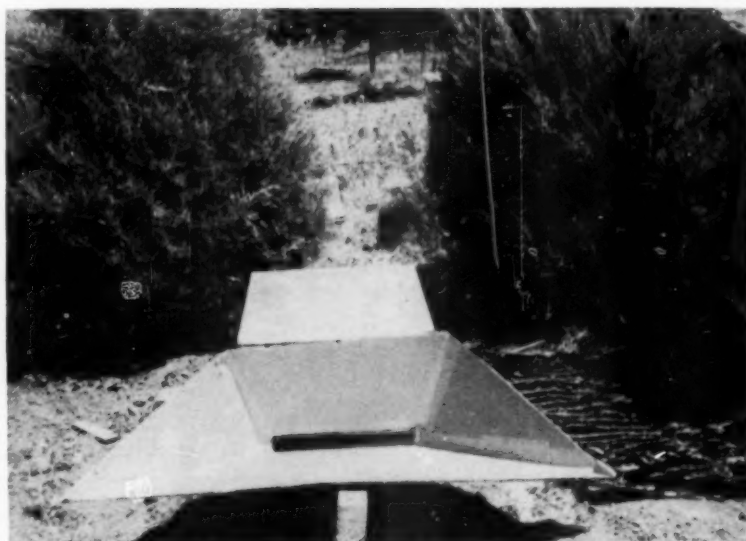
I am a retired backlotter with less than a dozen hives that I run for cut comb honey in shallow frames over a deep brood chamber or chambers. My system is a little different from any that I have read about and for a commercial beekeeper would possibly be too much work for practical purposes.

I use a double brood chamber to winter the colony. Then in the early spring I put a double screen between the hives, using a couple of pieces of shingle on the side to give the upper chamber an entrance and give them a new queen.

When the honeyflow is about ready to start I set the upper chamber off on a bottom board beside the other chamber, on which I put my honey supers. I call this my honey hive. The other I call the booster hive. As the booster hive accumulates more bees than is necessary to "keep the home fires burning" they are shaken off the frames in front of the honey hive and the young hive bees march into their new home with the field bees flying back to the old home.

A variation is to move the booster to the other side of the hive with its entrance to the back thus robbing the field force which goes into the honey hive as they cannot find the entrance to their own hive, or maybe moving it over by another hive which needs building up. It does seem though that in moving the booster hive around tends to make it become queenless though I am not sure that this is the cause.

In shaking the bees from the booster hive it has been necessary heretofore to find the queen to make sure she is not shaken into the other hive, but with a cardboard funnel, as shown in the picture, I only take a quick once-over look to see if I can see the queen before I shake the frame and if I do not see her I know that I will find her and the drones trying



Cardboard funnel for shaking the bees.

to get through the queen and drone trap after the workers have gone on through the apex of the funnel.

One will have to watch the honey hive for signs of swarming due to overcrowding during the swarming season but at the first sign of queen cells just swap the brood chambers which takes care of that at least for a while. Or one can just give them a queen cell and no queen and by the time the queen hatches out and they can make another swarm cell the swarming season should be over.

A swarm prevention measure that I use is to raise the brood chamber

all they can do is to return to the hive where they came from, and if you know the hive it can be ready with a non-swarming brood chamber when they return.

All that is needed to make the funnel is a queen trap, cardboard and gum tape. The funnel does not have to be jammed up bee-tight against the hive entrance, as the queen and bees will always fight towards the hive entrance and not come back out of the funnel.

Half the fun of beekeeping is outwitting the ornery little hot shots.

The proof of my system was a 160 pound average per hive this season at the end of the sweet clover flow and that is about all we can depend on out in this wheat country in mid-Kansas.

Anthony  
Kansas

*Like the Bees We Work  
for Others*

Dr. Francis O. Holmes



Gluing the top bars for inserting in side bars.



Gluing the bottom bars for side bar insertion.



"C" clamps to steady parts while gluing.

## More Efficient Frame Assembly

by Joe Robbins

This method of assembly is for beekeepers who want sturdy, long lasting frames.

First the top bars are glued to the sides of the frames and nailed to them. Now the problem is to attach the bottom bars. The bottom bars are laid flat on a table broadside up and parallel to each other. A narrow line of glue is applied to both ends of the bars. Then each bar is flipped up in the same direction onto the narrow side and another line of glue is spread across both ends of the narrow side. Another thin row of glue is spread across both ends of the group of bottom bars. I use Elmer's Glue-A-All.

Three sides of the bars are now wet with glue and are tapped into place

on the frames. The bottom bars need not be nailed unless they do not assume their position properly. Using this method will save time if fifteen or more frames are worked at once according to the length of time it takes for the glue to set.

Another time-consuming operation is inserting the foundation. Time can be saved in this operation by using "C" clamps or a similar holding device to steady the foundation as nails are hammered in a zig-zag manner. If the nails are hammered in at an angle, the sticks can be quickly nailed into place. The nailing can be started and completed more easily, the foundation is less apt to be damaged and the whole operation is carried out more quickly by following these steps. Signal Mountain, Tenn.

## The Care Of Bees

by Richard Taylor

Bees require less continuous, routine care than any other form of livestock. They do not need to be fed, except on very infrequent, special occasions. They are immaculately clean, hence create no unpleasant odors. They do not attract mice, and they do not cackle. Once the necessary manipulations have been performed in the spring, they can if necessary, be left quite alone for as long as a month, or even longer during which time they work ceaselessly for the beekeeper. Only trivial preparations for winter are required, and when spring comes the bees are ready again to work themselves to death making money.

This should not suggest that beekeeping requires no work, much less that it does not require skill. It can be taxing in the spring, if you

have many hives, and again when one gleans the honey in the fall. But you can usually pick your own times to work with the bees—Sunday afternoon, for instance—and the "work" is in fact invigorating pleasure.

Unlike many branches of husbandry, there are no distasteful tasks, associated with slaughter and the like, connected with apiculture. A good colony of bees, in a good season, will often store a hundred pounds of "surplus" honey that can be harvested. Sometimes one gets a hundred and fifty from a single colony, but sixty pounds is a more realistic expectation. It has been shown that apiculture is more profitable, in terms of return against time and overhead, than any other branch of husbandry. Of course, slovenly apicultural practices result in no honey crop at all, and eventually, no bees, which is as it should be. (From Rhode Island Quarterly—April)

## Tazewell County (Ill.) Compliments American Bee Journal Anniversary

The Tazewell Beekeepers' Association, in their recent meeting, offered a motion of congratulations to the American Bee Journal on their 100th Anniversary.

It was noted in the meeting that there were some long time subscribers, namely as follows: Fred Bellatti, Mt. Pulaski, 60 years; S. A. Tyler, San Jose, 55 years; Hoyt Taylor, Pleasant Plains, 35 years; John Kinsinger, Washington, 30 years; Lloyd Lindenfesler, Tremont, 28 years.

One cannot help but be appreciative of the continuity and the friendliness of this group.



## Successful Lecturing

by John H. Furber\*

I have given many lectures about bees, beekeeping, and honey over the radio, television and in person to clubs, churches, lodges, and other organizations. I charge a fee which covers my expenses except in the case of Boy Scouts. The subject of the

lecture is "The Honey Bee, God's Most Important Insect."

I begin by showing articles on bees in magazines, booklets and pamphlets distributed by such organizations as U.S. Steel, General Motors, Texaco, General Mills, and others. This is to



The Middlesex County (Mass.) Association inspects its colony at an outdoor meeting. Inspector Southwick opens the hive.



Roy Paget (left) of Tarrant County, Texas, shakes hands with the president, John Furber, at the regular monthly meeting at the University of Massachusetts Field Station. Mr. Paget gave an interesting lecture on queen breeding.

dispel the idea that beekeeping is a pastime for some fanatic. I then follow with a statement that without the honey bee and the pollination it provides, we could not feed our great nation. This type of opening always gets the audience in a receptive state of mind.

The lecture consists of about 60 colored slides which I project on a glass screen, using a 500 watt projector. The first slide shows a close-up of three bees—the queen, drone and worker. Slide 2 shows a package of bees as it is sent from the South. Number 3 shows a swarm in an apple tree in June. Then follows a series showing the installation of package bees; then inspections each month as the colony develops right through to the time when the honey is taken off and extracted and bottled.

The showing of the slides and the lecture requires about an hour and this is always followed by a question and answer period and I can assure you that there are many questions asked. At some meetings I am requested to bring honey, dispensers and beeswax candles. I am always successful in selling the idea of honey as a top-rated food and beekeeping as a fine useful hobby.

"Honey for Your Health" is the title of an article that John Furber has in the "Universal Engineer" for September-October 1959 published by Universal Craftsmen Council of Engineers, Inc., Rochester, New York.

It describes the life of the bee and the usual information in which beekeepers are interested and ends with a list of publications that readers may get.

\*John is President of the Middlesex County (Mass.) Association.



# ★ Editorial for January ★

## *The New Farm Program*

by Roy A. Grout  
Associate Editor

Author of the "Hive and the Honey Bee." Well known as one of the industry's ablest leaders.



Although President-elect Kennedy received no mandate from farmers as to what to do with the farm program, all farm leaders agree that the new administration is going to change, perhaps drastically, the present farm program. Continuing production of surplus crops and the exceedingly high cost of supporting prices of farm crops and storing them makes new legislation a certainty.

The beekeeping industry should be alert to all that is taking place and should take steps to see that the honey price stabilization program continues in effect and is a part of any new legislation.

The honey price stabilization program has been a good thing for the bee and honey industry, and it has been a good thing for agriculture in helping to maintain numbers of colonies needed for the pollination of more than fifty food and seed crops. This program has been called by government officials "the ideal price support program." It has not resulted in expensive surpluses and has been a means to stabilize the price of honey in the several years when large crops of honey were produced. It has acted as a floor under the selling price of honey, enabling needy producers to obtain loans until such time as they could move their crop in an orderly way.

The predicted new legislation is apt to bring a further benefit to the beekeeping industry. While there is much disagreement between the many farm organizations as to just what the farm program should or should not be, there is much agreement on one point. This is that the soil bank be revived and enlarged.

With some 28 million acres already in the soil bank, Congress last year let the soil bank die by letting the spending authority run out through not appropriating funds for this purpose.

The Farm Bureau last year recommended that the soil bank be increased to 60 million acres and now some organizations are advocating 80 million acres. When we consider that there are only 460 million acres of crop land, these figures become important.

The liberal Farmers Union is proposing legislation that would limit the number of bushels of wheat, for example, that a farmer could sell, rather than limit his acreage. Their views are in line with those of President-elect Kennedy who introduced a bill along these lines in the last session of Congress but withdrew it when it became apparent that President Eisenhower would veto it. To be able to sell his wheat, the farmer would be required to retire an extra 10 per cent of acres into a land retirement program and to plant it to soil conserving crops.

The much larger Farm Bureau recently at its meeting in Denver recommended that the Secretary of Agriculture determine how much land should be retired from crop production and then to not let any farmer raising feed grains, wheat, soybeans and flax to get price support loans unless he retires a specified percentage of his acres. And the National Farm Policy Council has recommended that every farmer be required to idle at least 20 per cent of his crop land. It is reported that such views are consistent with President-elect Kennedy's farm goals.

So, it looks very much like the soil bank, land retirement, regimentation of farmers or what-have-you will be a part of new farm legislation, and this should be of help to beekeepers by providing more sources of bee pasture. For it is a foredrawn conclusion that some of the soil bank or retired land will be planted to soil-building legumes as well as to soil-holding grasses.

The American Beekeeping Federation in its coming annual meeting at Omaha January 30 to February 4 needs to take a real look at legislation that is being proposed. With a now-or-never attitude, many farm leaders are convinced that they had better get the laws they want now. You can be sure that they will not be thinking of bees and honey. It is going to be up to us to see that the new legislation is beneficial to the industry. It will be necessary for us to cry aloud in order to be heard.

Price support for honey should be continued to ensure a profitable bee and honey industry. Honey should be supported at a level that will make it possible for beekeeping to be profitable. Agriculture must be made aware of the role that honey bees play in the pollination of crops. Soil bank and land retirement plans could well include legumes that produce nectar and in turn support beekeeping.

# Analysis of Mixtures of Beeswax And Petroleum Waxes

Jonathan W. White, Jr. and Irene Kushnir  
Eastern Regional Laboratory<sup>1</sup>  
Pennsylvania 18, Pennsylvania

Beeswax is an important and valuable product of the honeybee. Its price and markets are relatively stable, compared to honey; there is a demand in this country for about twice the amount produced here.

Much of the domestic beeswax is used in the manufacture of comb foundation. With increasingly severe demands being placed on the performance of comb foundation, particularly in warm climates, some manufacturers of comb foundation had strengthened their product by adding other materials to beeswax for such use. Some of these additive waxes were more costly than beeswax, others were less expensive. Some manufacturers labeled the product and advertised that such additives were placed in the wax. Others made no mention of it. Foundation of greatly increased strength and higher melting point did fill a need in modern beekeeping practice.

Since the greatest part of the combs remained in the beekeeper's possession and were not re-melted, a relatively small amount of additive wax at the beginning caused no great harm to the wax market. However, as time went on, the amount of other wax in some cases increased from a small percentage to a large amount and the product was marketed with no reference to its composition.

Finally, some foundation was marketed that appeared to have no beeswax at all and be composed of relatively inexpensive microcrystalline wax that could be purchased for a few cents a pound. Combs drawn from foundation containing a large percentage of microcrystalline wax when rendered resulted in a beeswax that carried variable and unknown amounts of impurities. Thus there was a possibility of accelerated trend towards lower quality beeswax. This could, in turn, lead users of beeswax to question the quality of our domestic wax with possible loss of markets. It is recorded that early in the century the German domestic beeswax market collapsed because of in-

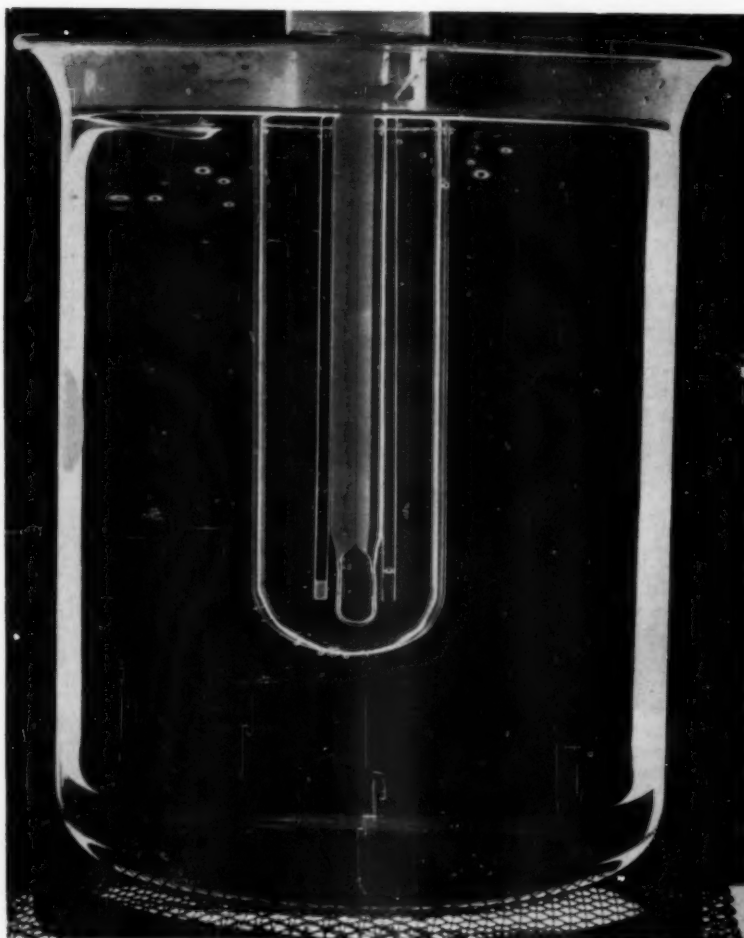
troductory there of artificial comb materials.

Fortunately, the possibility of this occurring here has been forestalled by recent cooperative actions among the producers of comb foundation. They have agreed that all comb foundation will contain no inseparable materials other than pure beeswax.

The detection and determination of mineral waxes in beeswax has been a problem for many years. A general approach has been to ascertain the analytical constants for pure beeswax



Dr. Jonathan W. White, Jr.



Small samples of hydrocarbon material obtained in the determination of hydrocarbon content of the waxes are placed in capillary tubes, attached to a thermometer in a water bath. The water is heated until the samples melt, then let cool and the temperature noted at which they solidify.

<sup>1</sup>Eastern Utilization Research and Development Division, Agricultural Research Service, United States Department of Agriculture.

and then note how questionable samples differ from these values. This is useful for detecting gross admixture of other materials with beeswax, but it has long been known that mixtures of various materials can be put together that will respond properly to these analyses, thus simulating beeswax when in fact none may be present. Thus the analysis of questionable samples may be quite a complex matter, though the true nature of such mixtures can be shown.

These analytical constants for beeswax are generally used in government and commercial specifications and also in the various pharmacopoeias. It can easily be seen in Table 1, which lists some of these values, that there is a wide range of values for beeswax. This means that it is most difficult to show the presence of relatively small amounts of nonbeeswax materials in a beeswax

#### Pharmacopoeias

U. S. (XV)	18-24	-	72-77	62-65	-
German	16.8-22.1	-	65.9-82.1	62-66.5	3.0-4.3
French	16.8-22.4	92-102	72-80	62-66	-
British	17-23	-	70-80	62-64	3.3-4.2
U. S. S. R.	17-20.5	-	66-76	63-65	3.42-3.9

#### Specifications

U. S. Federal	16.5-21.0	86-96	-	60.5-64.0	3.5-4.3
New Zealand	17-21	87-103	70-80	62-64	3.3-4.2
Toilet Goods Assn.	17-24	89-103	72-79	62-65	3.3-4.0

sample, by determination of these constants.

The materials most likely to be mixed with beeswax in quantity are petroleum waxes, particularly microcrystalline wax. This material may superficially resemble beeswax but is quite different, being a very inert and nonreactive material. Its presence

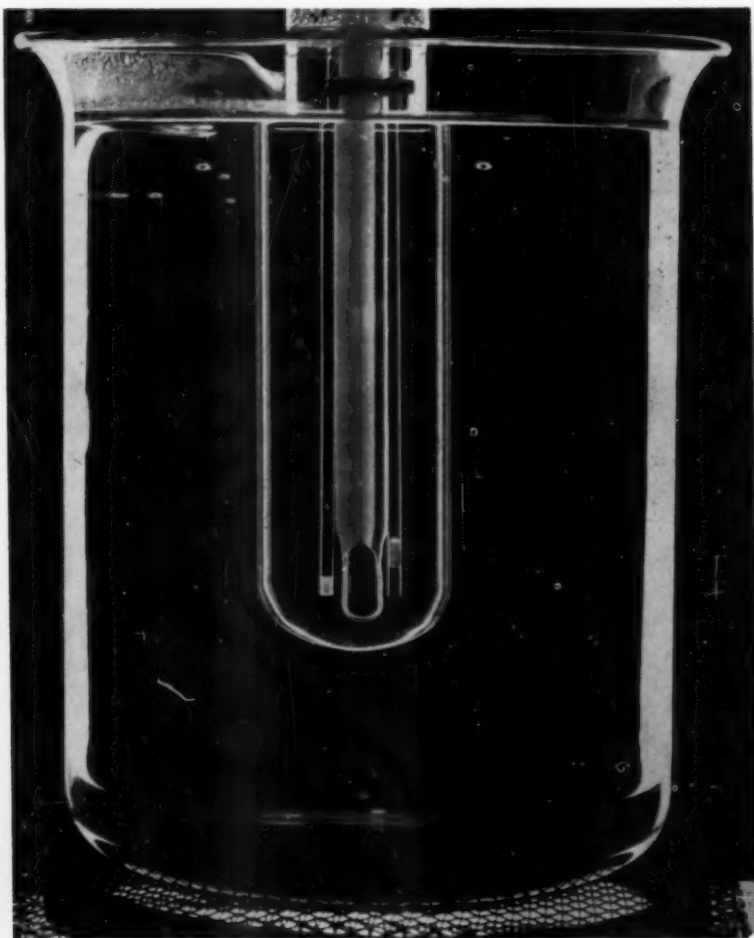
causes the analytical values such as shown in Table 1 to drop, except melting point, which will generally be higher. The problem with the use of these values to show the presence of mineral wax is the decision as to where the line separating the pure from the impure can properly be drawn.

Since petroleum waxes are largely hydrocarbon material, another approach to this problem is to determine the amount of hydrocarbon material in a beeswax. This has been done for many years by using cumbersome and lengthy chemical procedures. A problem, similar to that described above, immediately arises. This is the naturally occurring hydrocarbon content of beeswax. If it varies among different samples of wax, a degree of uncertainty as to the amount of petroleum wax present is introduced into the picture.

Some hydrocarbon values have been recorded in the literature for beeswax. The values of eight workers who have reported them in the past 70 years range from 10.4% to 17.3%, with most ranging from 12.5 to 14.5%. If a narrow natural range for this value could be substantiated, a reasonably sensitive method for microcrystalline wax in beeswax would result.

Of the eight investigators noted above, only two dealt with United States beeswax, and one of these gave only one value. Thus it was necessary to establish the range of values for hydrocarbon content of U. S. beeswax, in order to find if this procedure could be used for the determination of microcrystalline wax in beeswax. This we have done.

With the invaluable cooperation of the Bee Industries Association, wax renderers and beekeepers, 73 samples of beeswax were collected for this work. In addition to 34 samples of cappings wax, 25 old comb waxes were obtained, all from foundation known to be all beeswax. These samples, together with four special



In the first picture (at 65 degrees C) the sample at the left, from a mixed wax, has solidified while that on the right, from pure beeswax, is still liquid. The picture above (at 55 degrees) shows both solidified.

samples described later were analyzed for hydrocarbon.<sup>2</sup> We used a new, relatively simple method of analysis which we had developed for the purpose.

This method uses the principle of chromatography. A glass tube is partly filled with activated alumina, a sample of beeswax is dissolved in petroleum ether and allowed to run slowly through the vertical tube. All of the constituents of beeswax except the hydrocarbons are tightly held by the powdered alumina in the tube. The solvent is then removed from the solution that passed through the tube and the amount of residue weighed. This material is the natural hydrocarbon material from the beeswax. As an additional test we determined the freezing point of the hydrocarbon thus isolated from the beeswax.

In order to be sure that the wax

<sup>2</sup>Marilyn K. Reader and Mary L. Riethof carried out these analyses.

TABLE 2  
ANALYTICAL VALUES FOR UNITED STATES YELLOW BEESWAX

Value	This Paper		Bisson et al.*	
	Cappings	Old Comb	All	
M. P.	63.66	63.44	63.56	64.1°C.
Acid No.	18.33	18.33	18.33	18.6
Sapon. No.	91.08	90.72	90.94	93.9
Ester No.	72.75	72.39	72.61	75.3
Ratio No.	3.97	3.95	3.96	4.04
Hydrocarbon	14.36%	14.88%	14.59%	—
Hydrocarbon M. P.	55.1°C.	54.8°C.	54.9°C.	—
Sap. Cloud Test	62.5	62.5	62.5	—
Number Samples	34	25	59	56

\* Their samples 43, 44, 45, 49 omitted.

samples were authentic beeswax, insofar as the regular analytical constants were concerned, we determined these constants for all samples. In Table 2 may be found the average values that were obtained for these, together with corresponding values for 56 of the 60 samples of western wax published by Bisson, Vansell and Dye.<sup>3</sup> The agreement is considered satisfactory. Our slightly lower values

TABLE 3  
Calculated Numbers of Beeswax Samples Having M. P. of Hydrocarbon Fraction within Indicated Interval

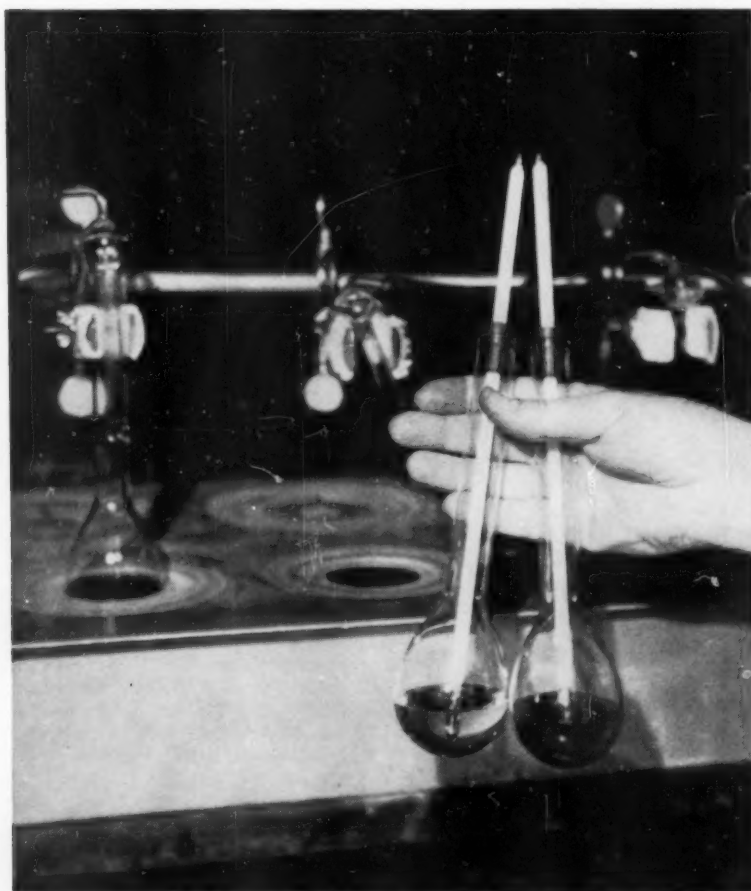
No. of Samples	Interval
2 of 3	54.4-55.4°C.
19 of 20	53.8-56.0
369 of 370	53.3-56.5
16666 of 16667	52.8-57.0

for saponification number are believed to be due to an improved analytical method. This is also reflected in the ester number, which is calculated with the saponification number.

The range we found for hydrocarbon values is quite wide, from 12.28% to 17.09%. Thus it might appear that a low-hydrocarbon wax could have an appreciable amount of microcrystalline wax added without exceeding the natural range of variation. However, this is not the case.

The value in Table 2 for which the range is least is the acid number. Next lowest is the freezing point of the hydrocarbon isolated from the beeswax. This has other interesting properties: the value is considerably lower than that for the "hydrocarbon" similarly isolated from microcrystalline waxes, and it is raised appreciably by relatively small additions of microcrystalline wax to the original beeswax.

It can be calculated that the freezing point values of the isolated hydrocarbon for samples of U. S. yellow beeswax will be distributed as shown in Table 3, assuming a normal distribution. This means that for example, this value for a pure wax would be expected to fall between 53.3 and 56.5° Centigrade in 369 of any 370 samples tested. From the last line in the table we can draw the statement that if the melting point of the hydrocarbon isolated from a beeswax is above 57° C. the odds are 99,994 in 100,000 that it is not a genuine



The saponification cloud test will indicate the presence of a few per cent of microcrystalline wax. When pure beeswax (left) is tested the solution is clear (note thermometer bulb) above 65 degrees C; when mineral wax is present it is cloudy (right) at or above this temperature. (All photos from U.S.D.A. by M. C. Audsley)

<sup>3</sup>Bisson, C. S., Vansell, G. H. and Dye, W. B., Tech. Bull. 716, U.S.D.A. (1940).



domestic yellow beeswax.

This melting point could be used to give a good measure of the amount of microcrystalline wax in a beeswax mixture, except for one difficulty. Microcrystalline waxes themselves are quite variable in their characteristics, perhaps more so than beeswax. Thus the melting point of the hydrocarbon of some 20 microcrystalline waxes that we examined ranged from 67.1 to 82.0 degrees. This makes it impractical to try to measure exactly the composition of a mixture this way. We can, however, state that the presence of about 3 percent of such wax in beeswax will raise the melting point of the hydrocarbon above 57° and thus prove the admixture. With many waxes, a 1% mixture will do this.

Another way to approach this problem is to base the calculation on the amounts of hydrocarbon found in a wax sample. In this case we must know the amount of such hydrocarbon material found in the microcrystalline waxes themselves. In the 20 samples referred to above, the average was 84.74%, with the values ranging from 75.29 to 91.27%. Since we know the average value for beeswax (Table 1) is 14.59%, we can set up a calculation based on these two averages. This was done, and tested by analyzing 12 mixtures of beeswax and microcrystalline wax, paired at random, varying from 0.9% to 59% microcrystalline wax. The calculated results were quite close to the known composition, even though we were using average values for our standards. The average difference for the 12 samples was well under 1% microcrystalline wax.

TABLE 4  
ANALYSES OF WAX FROM CAGED BEES

	Sample			
	1	2	3	4
Melting Point (°C.)	62.92	63.00	63.18	62.33
Acid No.	20.63	21.06	20.45	19.69
Sapon. No.	92.36	93.89	94.04	93.55
Ester No.	71.73	72.83	73.59	73.86
Ratio No.	3.48	3.46	3.60	3.75
Sapon. Cloud (°C.)	61.0	60.4	60.2	60.4
Hydrocarbon (%)	12.55	12.54	11.27	12.30
Hydrocarbon M. P. (°C.)	55.1	55.4	55.4	55.2

During these investigations, 4 special beeswax samples were prepared by the Bee Culture Investigations Laboratory at Madison, under the direction of Dr. C. L. Farrar. They were waxes produced by caged bees of two strains, as follows (none had access to pollen). Table 4 shows the analysis of these waxes.

	Rossmann Hybrid	Starline Hybrid
Fed Sugar Sirup	1	3
Fed Clover Honey	2	4

Comparison of these values with the averages for regular beeswax shows the differences in composition caused by the availability of pollen and propolis to the bees. All 4 samples were white.

During this work several other proposed methods for detecting microcrystalline wax in beeswax were tried. Flash points of 10 beeswaxes were found to range from 490° to 525° F., while the addition of 30% of a petroleum wax of flash point 570° raised that of a beeswax only by 10° F. The saponification cloud test, a relatively simple chemical test for paraffin waxes, is included in the Federal Specification for beeswax. It was

found to be quite useful in indicating the presence of microcrystalline wax in beeswax down to the 2% level.

In this test the wax sample is boiled with alcoholic caustic to saponify it and then cooled under controlled conditions. The temperature is noted at which the first cloudiness or turbidity appears in the solution. A maximum value of 65° C. is specified in the test.

The technical details of this work and the complete analytical data on the individual samples are published in the Journal of the Association of Official Agricultural Chemists.

#### Research In Buckwheat In Pennsylvania

The Pennsylvania Beekeeper reports that a world-wide collection of buckwheat seed has been accumulated at the Agricultural Research Station at Penn State University.

The University colonies of bees are being used in the testing which is going on at the college. Some varieties have plants five feet high with small bunches of blossoms, well over the complete height. Soil fertility seems to be a big factor in the growth of the buckwheat plant.

#### Boron Deficiency In Soybeans

It has been suggested from experiments conducted by the Missouri Experiment Farm that a boron deficiency in the soil causes a depression in the growth of soybeans, and that, furthermore, such deficiency of boron may be caused by a surfeiting of the soil with potassium. So necessarily where boron is needed in a soil the relationship of this material and of potassium should be determined to guard against the unbalance that might result.

One wonders if the shortage or sufficiency of boron in soybean soils may have something to do with the absence or presence of nectar in soybeans raised on such areas. It is well known that soybeans do yield plentifully on some soils, but no definite reason for the nectar production has yet been traced that we know of.



Contribution for  
January  
from the  
Science Department.

Editor—

DR. WALTER ROTHENBUHLER

Iowa State University  
Ames, Iowa



# Fun For The Family

**Editor— Pat Diehnelt**

**Rt. 1, N83, W13799, Fond du Lac Ave.  
Menomonee Falls, Wisconsin**

## SCRAMBLES CROSSWORD PUZZLES PRIZE RECIPES

Pat is the wife of Walter Diehnelt, one of Wisconsin's best commercial operators. She has several children who approve of Mother's Honey Cooking. She says she is growing old and getting wrinkles. Imagine that! She has been one of our Editors for several years. This is her brand-new department for 1961.

### JANUARY CROSSWORD PUZZLE

Horrors! The puzzle was in the page and printed. Then, my oh my, we found that one black square was white! Also that the numbers were wrong on the entire bottom half of the puzzle diagram. So we'll have to delay the crossword until February. So sorry.

#### Honey Corn Meal Mush

One box of corn meal can spell many interesting dishes, if you know the right combination. The secret to that combination can be spelled H-O-N-E-Y.

For honey is a good companion to corn meal. A great favorite among folks who relish a tasty meal is corn meal mush with honey poured on so it saturates the mush.

Whether you fry or bake the mush, you'll find its flavor much improved with a generous serving of honey. It can be served for lunch with a fresh green salad and cold cuts. Or if you like, serve it at breakfast with tiny pork links. But always serve it with honey.

Corn meal mush is an easy-to-keep dish, so what is left over can be put in the refrigerator for a quick lunch the next day. And honey, of course, has unlimited keeping qualities.

To make Corn Meal Mush follow the recipe on the box. When done pour the cooked cornmeal into a loaf pan. Let stand until cold. Cut into ½ inch slices and pan fry slowly on a slightly greased griddle. Top each

### JANUARY SCRAMBLE

Can you unscramble this well known saying about the bee? Try it and send your answers to Pat. The letters in the words are scrambled and the position of the word in the sentence.

**sybu sah eeb het sorowr on rof meit**

slice with one tablespoon honey. Fry until mush is golden brown. Serve with Spiced Honey Sauce or Honey Butter.

#### Honey Butter

½ cup butter  
½ to 1 cup honey

Cream butter well. Add honey gradually. Beat thoroughly. Place in refrigerator. Delicious on toast, hot

bread, waffles, and for sandwich filling.

#### Spiced Honey Sauce

¼ cup butter or margarine  
1 cup Honey, ¼ teaspoon cinnamon  
Heat butter or margarine, honey and cinnamon in a double boiler or in a saucepan over low heat. Serve warm. Pour over mush. Yield: about 1½ cups.



From American Honey Institute

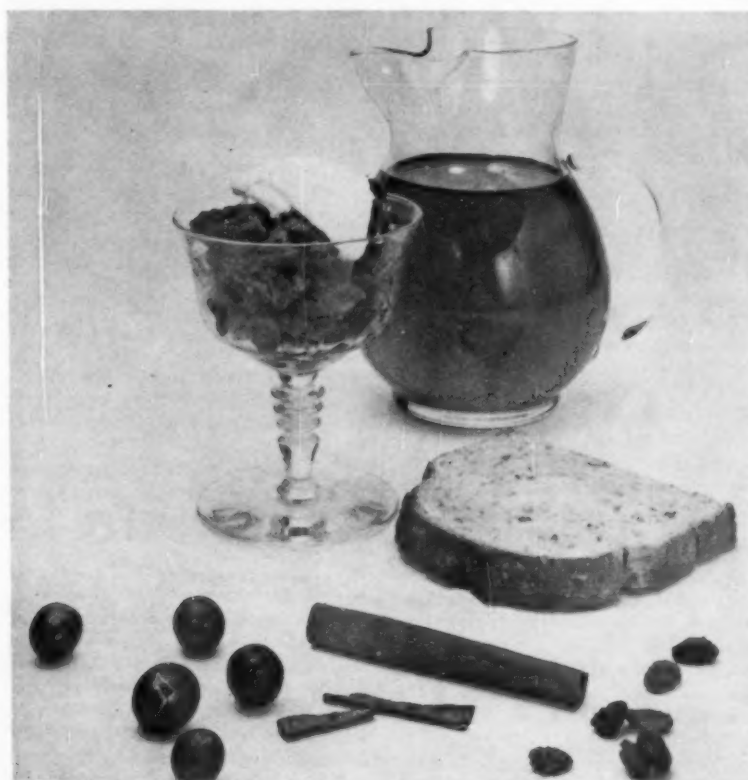
Madison, Wisconsin

# Ladies, Try for a Prize Winning Recipe

Send me your best loved honey recipe, only one, and if possible on one sheet of paper. We'll try it out. The recipes will be judged and the best one will be photographed and published in the Journal. Every contestant will receive a "Honey of a Cook" Merit Card, a pretty "do" to amaze your friends. Send your recipe to my address. If there is time the winning one will appear in February.—Pat.

## Cranberry Bread Pudding

Up go the hands and it's a unanimous vote when tart, refreshing cranberry bread pudding is suggested for dessert. Easy as can be to prepare for a small family or the crowd. Tasty and colorful served warm with a saucy topping or chilled with honey-sweetened dairy sour cream. All ingredients are available right thru the fall and winter season. Most of them, such as bread, butter and honey are part of the daily diet. The addition of fresh cranberries and golden raisins, makes this simple dessert a member of the deluxe class.



1 cup honey  
½ cup butter or margarine  
½ teaspoon salt  
1 teaspoon cinnamon  
¼ teaspoon nutmeg

1 cup cranberries  
1 cup golden raisins  
2 cups water  
6 cups toasted whole wheat bread cubes, packed in cup

In a saucepan, mix together honey, butter, salt, spices, cranberries, raisins and water. Bring to boil over medium heat, stirring. Boil gently 5 minutes or until cranberries are soft. Butter 2-quart pudding pan, add bread cubes. Pour prepared fruit sauce over cubes. Allow mixture to stand 15 minutes to blend flavors. Bake pudding uncovered at 350° (moderate) 45 minutes. Serve warm with honey-sweetened dairy sour cream or your favorite holiday sauce. Makes 10 servings.

Prepared by Mona Schafer, Home Economist, California Honey Advisory Board, 2515 Huntington Drive, San Marino 9, California.

## How-To-Do-It

### Super on Top

Supers should always be added on top, even if they contain only foundation. Some beekeepers add the second super *under* the first when the latter is partly filled thinking that the bees will be induced to work harder to get that empty super between it and the brood nest filled. It doesn't work that way and the beekeeper just makes more work for himself. Bees will occupy supers as fast as they need them if they are always added on top.

Richard Taylor  
(Rhode Island Quarterly)

### Ice Cubes for Bee Stings

I have found that a very effective remedy for bee stings is an ordinary ice cube. As soon as the sting is made and the stinger is removed simply rub the affected spot with an ice cube. The wound will not swell and the pain soon quits.

Roy H. Gibbons  
Bentley, Ill.

### How to Make a Hive Tool

Take an old ten inch file and break off the end. Heat and flatten each end and then bend one end over at a right angle about half an inch from the end. Let the tool cool and then paint it a bright red so if you drop it in the grass you can find it easily.

E. Goward  
Mansfield, England

### Deep Freeze for Comb Honey

You can keep comb honey or chunk honey for a long time and have it to use the year-round without its granulating. Wrap it up in airtight cellophane or plastic and put it in a deep freeze or locker box and whenever you want some, all you have to do is get it out of storage and thaw it out and it will be as fresh as the day you put it in there. In fact it will be more crisp than it was originally.

I have a customer who told me that his wife one day was defrosting the deep freeze and she found two combs of honey that had been in there for over two years. When they thawed out, they were as fresh as the day they were put in.

Edmund Ulrich  
Filer, Idaho



# Your Questions Answered

• *Question from*  
Henry C. Chance  
Joelton, Tenn.

I would like to know if there is anything I can plant from which my bees would make honey.

*Answer*

I am afraid it would be difficult to tell you of all the plants that produce honey. Pellett, in his book "American Honey Plants," has two columns on 15 pages of the index listing plants which produce either nectar or pollen. Almost all plants which bloom will attract bees. The honey producing plants in Tennessee probably include basswood, locust, tulip poplar, persimmon, maple, willows, sourwood, sumac, berries, the legumes (clover, vetch, alfalfa), and many others.

I do not believe it would pay to plant crops solely for the production of honey. You must harvest seed, hay, or something else from the plant to make it pay. The beekeeper has always depended upon the forest and crops planted by farmers and fruit growers to provide him with his sources of nectar. The bees repay the farmer well with better crops as the result of better pollination.

• *Question from*  
Tom Blake  
Searcy, Arkansas

Your columns in the Journal have been a great help to me and I am sure to many other beginners. I now want to know if there are many beekeepers in Alaska and if so is there a big honeyflow? Which part of Alaska has the best flow? What plants produce honey? Is there anything I may read which will help me learn more about beekeeping there? Is there anyone to whom I might write?

*Answer*

I am afraid I cannot tell you anything about bees in Alaska. I know there are bumblebees and I suppose there are places where bees can be kept.

I should think the United States Department of Agriculture might be able to answer your question on keeping bees in Alaska.

If any of our readers can help Mr. Blake, we would appreciate hearing from you.

• *Question from*  
Jerome H. Nawrocki  
Lancaster, New York

What are ventilating blocks and where are they used? In the Journal for August it says that these blocks should be removed.

*Answer*

The ventilating blocks referred to are small blocks of wood about one inch square, which some beekeepers place between the hive body and bottom board to give the bees more ventilation. This is supposed to help prevent swarming, especially for comb honey production.

• *Question from*  
George A. Lee  
Mayfield Heights, Ohio

I have one colony (out of three) in which the bees have become very mean. They become very angry as soon as the brood chamber is disturbed. I would like to replace their Italian queen with a Caucasian. How can I get rid of their queen? How can I find her? I do have a queen and drone trap. Would inducing the bees to ball the queen do any good?

*Answer*

The easiest way to find the queen is to take out the frames one at a time and look for her. She is located usually in the brood nest near eggs. If you do the job carefully and with a minimum amount of smoke and confusion, she should be spotted easily. Some beekeepers will put an empty hive body under the full brood chamber with a queen excluder between. The bees are shaken off each comb onto the queen excluder and the frames are placed below in the empty hive body. The bees will all try to go through the queen excluder to the brood, leaving the queen and drones above.

I do not know how you can get the bees to ball the queen. It is sometimes possible to introduce the queen into a queenless nuc or small queenless colony over a double screen. After the new queen starts to lay, pull the screen. Usually the queen in the top body will live.

There is only one sure way to eliminate the old queen and that is to find her and kill her.

• *Question from*  
Teddy Falkenberg  
Cadott, Wisconsin

How is it possible for a queen to get through a queen excluder? I had one that got through the excluder three times. The last time I accidentally killed her, probably for the good. The mystery still remains, because I had two other excluders exactly the same on two other hives and the queens never got through the excluder. If you can answer this I would be glad to know why this occurred.



EDITOR— W. W. Clarke, Jr.  
204 Ag. Ed. Building  
Penn. State University  
University Park, Pa.

*Answer*

The difference in size between a queen and a worker is not great, so, if by accident you happen to spread the wires of the queen excluder, even though it is hardly noticeable, it would be possible for the queen to pass through. It is also possible you had a small queen which could conceivably pass through the wires. The only other possible answer would be that you let her up there yourself in your management but this does not seem likely.

You may have solved your own problem by killing the queen, even though it was accidental.

• *Question from*  
Russell H. Steininger  
Wayne, Michigan

I am aware of the deterioration of the taste of honey when overheated or heated too long, but I had some combs containing considerable propolis which I heated in the oven of my kitchen range to 250 or 300 degrees before it melted.

May I ask you if the honey from this highly heated comb would be injurious if fed back to my bees? Someone has said that it would give them dysentery.

*Answer*

I think there is some danger of overheated honey causing trouble in wintering. I think the same honey diluted with water would be satisfactory for feeding in the spring for brood rearing.

Why did you heat the honey to so high a temperature? Beeswax melts at slightly over 140 degrees which would do little damage to the honey.



# MEETINGS

## American Beekeeping Federation



Paxton Hotel

**Program**  
American Beekeeping Federation  
1961 Convention  
Mon., Jan. 30 through Sat. Feb. 4  
Paxton Hotel, Omaha

### MONDAY, JANUARY 30

8:30 a.m.—  
Apiary Inspectors of America Meeting.  
9:00 a.m.—  
American Beekeeping Federation Executive Committee Meeting.  
1:00 p.m.—  
Royal Jelly Research Foundation Meeting.

### TUESDAY, JANUARY 31

8:30 a.m.—  
Apiary Inspectors of America Meeting.  
9:30 a.m.—  
American Beekeeping Federation Board of Directors Meeting.

9:30 a.m.—  
American Honey Institute Board of Directors Meeting.  
1:00 p.m.—  
Registration.  
1:30 p.m.—  
National Honey Packers & Dealers Assn. Meeting of Directors.  
7:30 p.m.—  
Meeting of Honey Industry Council.  
7:30 p.m.—  
Meeting of American Committee of Bee Research Assn. and Research Committee of American Beekeeping Federation.  
The effect of chemicals, drugs and antibiotics in beekeeping practices, Dr. C. L. Farrar, Presiding.

### WEDNESDAY, FEBRUARY 1

9:00 a.m.—  
Registration all day.

9:30 a.m.—

Meeting called to order, President L. R. Budge, presiding.

Invocation.

Welcome address, John Rosenblatt, Mayor of Omaha.

Response, Henry Hansen, Dakota City, Iowa.

10:00 a.m.—

President's address, Lawrence Budge, Malad, Idaho.

10:30 a.m.—

Keynote address, Prof. F. B. Paddock, Ames, Iowa.

11:00 a.m.—

Honey Institute Activities, 1960, Mrs. Harriet Grace, Madison, Wisconsin.

Financial Side of the Honey Institute, T. E. Bursleson, Waxahachie, Texas.

Marketing, Clarie Floyd, presiding

1:00 p.m.—Film.

1:30 p.m.—

Butternut Food Merchandising Plan for Modern Supermarkets, Les McBride, Vice Pres., Butternut Foods, Inc., Omaha.

2:00 p.m.—

Future Foreign and Domestic Markets for Honey, Marvin Webster, U. S. Dept. Agr., Washington, D. C.

2:20 p.m.—

Marketing Services Available to the Honey Industry, R. P. Calloway, U. S. Dept. Agr., Washington, D. C.

2:45 p.m.—

Regional Marketing Workshops (Plan to be announced).

4:00 p.m.—

Reconvene to hear work shop reports.

4:00 p.m.—

Bee Industries Association Meeting.

7:30 p.m.—

Interstate Marketing Council Organizational Program; Open meeting, all are invited, Glen McCoy, Chairman, Alexandria, Minn.

Subject matter - Fundamentals and Economics of a Marketing Program to Handle a Nationally Produced Crop (Speaker to be announced).

Know How, From Those Who Know How (Speaker to be announced).

*Federation Research Program*

## THURSDAY, FEBRUARY 2

9:00 a.m.—

Opening Remarks, Prof. Floyd B. Paddock, Presiding.

9:05 a.m.—

Inherited Behavior and Honey-Bee Breeding, Dr. Walter C. Rothenbuhler, Iowa State University, Ames.  
9:35 a.m.—Questions.

9:40 a.m.—

Federal Bee Culture Investigations, Dr. C. L. Farrar, Head, Bee Research Investigations, USDA, Madison, Wis.  
10:10 a.m.—Questions.

10:15 a.m.—Recess.

10:35 a.m.—

Copenhagen Pollination Symposium (Summer, 1960), Dr. B. Elwood Montgomery, Purdue University, Lafayette, Ind.

11:05 a.m.—Questions.

11:10 a.m.—

Beekeeping in Hawaii, Dr. E. J. Dyce, Cornell University, Ithaca, New York.

11:40 a.m.—Questions.

Bee Research Association, American Committee - Dr. M. Levin, presiding.

### Royal Jelly and Honey Research Reports

1:30 p.m.—

The changes in the vitamin content of royal jelly produced by nurse bees of various ages in confinement, Dr. M. H. Haydak, University of Minnesota, St. Paul.

1:45 p.m.—

*Trypanosoma cruzi* Chagas killed by royal jelly, Dr. M. Stejskal, College of Agric., Central Univ., Maracay, Venezuela.

2:00 p.m.—

The change of urine's pH after a honey treatment, Dr. J. Stomfay-Stitz, Duquesne University, Pittsburgh, Pa.

2:15 p.m.—

The effect of time on the inhibiting factor in honey on bacteria, Dr. J. P. McGarry, Duquesne University, Pittsburgh, Pa.

### Pollination Research Reports

2:30 p.m.—

The effect of increasing distance between two varieties of alfalfa on cross-pollination, Dr. M. D. Levin, Bee Culture Laboratory, USDA, Logan, Utah.

2:45 p.m.—

Competition between honey bees and wild bees on alfalfa, Dr. G. E. Bohart, Bee Culture Laboratory, USDA, Logan, Utah.

3:00 p.m.—

Pollination ecology of red clover raised for seed in Washington, Dr. C. Johansen, Washington State University, Pullman, Wash.

## Breeding Research Reports

3:15 p.m.—

Madibular gland excision of living queen and worker honey bees, Dr. N. E. Gary, Cornell University, Ithaca, New York.

3:30 p.m.—

An improved technique for distinguishing natural races of honey bees, Dr. E. J. DuPraw, Florida.

3:45 p.m.—

The effect of age of adult bees on hygienic behavior, V. C. Thompson, Iowa State University, Ames, Iowa.

4:00 p.m.—

The occurrence of natural DDT resistance in honey bees, Drs. E. L. Atkins, Jr. and L. D. Anderson, Citrus Experiment Sta., University of California, Riverside, Calif.

4:00 p.m.—

General meeting, Honey Packers and Dealers.

## Disease Research Reports

4:15 p.m.—

Observations on sac-brood disease produced by artificial inoculations, J. D. Hitchcock and I. L. Revell, Bee Culture Research Investigations, USDA, Laramie, Wyoming.

4:30 p.m.—

Bacteriophage patterns and antibiotic resistance of *B. larvae* cultures from Minnesota AFB cases, Dr. T. A. Gochmayer, University of Minnesota, St. Paul.

4:45 p.m.—

Biological observations of Acarapis mites of the honey bee Dr. J. E. Eckert, University of California, Davis, Calif.

7:30 p.m.—

Hobbyists Program, Dr. Robert Walstrom, Chairman, Brookings, So. Dak.

Selection of the Apiary Site, Dr. Mykola H. Haydak, University of Minnesota.

Hybrid Queens, Dr. G. H. Cale, Jr., Dadant & Sons, Hamilton, Ill.

Avoiding Brood Diseases, Louis Shanek, Nebraska Dept. Agr. & Inspection, Lincoln.

Importance of Hobbyists to the Future of Beekeeping, L. R. Budge, President, Am. Beekeeping Federation.

8:00 p.m.—

Business Meeting, American Committee of the Bee Research Association.

8:30 p.m.—

Open discussion between scientists and beekeepers.

## FRIDAY, FEBRUARY 3

9:00 a.m.—

Slides and report on Food Fairs in Europe, Millard Coggeshall, Chairman,

Honey Industry Council, Minneola, Fla.

9:30 a.m.—

A Message from Canada, Victor Mesley, President, The Canadian Beekeepers Council, Ontario.

10:00 a.m.—

What's Needed in Honey Research, R. B. Willson, New York City.

10:30 a.m.—

Honey Industry Council Report, Millard Coggeshall, Chairman, Honey Industry Council.

11:00 a.m.—

Committee Reports and first reading of resolutions.

1:00 p.m.—

Business meeting and election of officers.

7:00 p.m.—

Banquet, Richard McCann, Master of Ceremonies\*; Crowning of Honey Queen by Governor of Nebraska; Entertainment - Boys Town Choir; Corsages for all ladies, courtesy A. I. Root Co.

\*Mr. McCann is a nationally known toastmaster; he is director and executive of radio station KBON, Omaha, Nebraska.

## SATURDAY, FEBRUARY 4

8:30 a.m.—

Honey Industry Council Meeting.

10:00 a.m.—

American Beekeeping Federation Board of Directors Meeting.

7:30 p.m.—

American Beekeeping Federation Executive Committee Meeting.

### Ladies Auxiliary Program

## WEDNESDAY, FEBRUARY 1

2:30 p.m.—

Tour\* of Jocelyn Memorial.

7:30 p.m.—

Courtesy Coffee, get acquainted evening. Men are invited at close of marketing meeting.

## THURSDAY, FEBRUARY 2

10:00 a.m.—Brunch\*

Presentation of Honey Queen and Honey Queen Candidates, Martha Soder.

Invocation, Mrs. Joe Herman, Manchester, Iowa.

Welcome - Mrs. Lyndon Osterholm, President of Nebraska Honeys, Omaha, Nebraska.

Response - Mrs. L. R. Budge, Malad, Idaho.

Business Meeting, President Helen Partello, Presiding.

The Keeper of the Beekeeper, Mrs. Harriet M. Grace, American Honey Institute.

Tips on the Use of Honey, Mona Schafer, California Honey Advisory Board.

Ceramics as a Hobby, Head of

Ceramics Dept., Boys Town, Omaha, Nebraska.

#### FRIDAY, FEBRUARY 3

9:00 A.M.—

Tour\* to Boys Town (coffee and rolls to be served), and Shopping Center.

\*Sponsors: Tours—Dadant & Sons, Inc., Hamilton, Ill., Leahy Mfg. Co., Higginsville, Mo.

Favors for Ladies Brunch - Sioux Honey Assn.

#### Farm and Home Week Program For Beekeepers

University of Minnesota  
TUESDAY, JANUARY 17  
Room 307 Coffey Hall

1:30 P.M.—

Getting acquainted with the bees, M. H. Haydak.

2:30 P.M.—

Beginners' equipment and assembly, C. D. Floyd.

3:30 P.M.—

Questions and discussion, M. H. Haydak and C. D. Floyd.

WEDNESDAY, JANUARY 18  
Room 307 Coffey Hall

9:00 A.M.—

Honey bees—their individual and community life, M. H. Haydak.

10:00 A.M.—

Installation of packages and beekeeping practice, C. D. Floyd.

1:30 P.M.—

The state and the beekeeper, D. M. Coe.

2:30 P.M.—

Honey in the home, Barbara North.

3:30 P.M.—

Keep your bees well fed, M. H. Haydak.

7:00 P.M.—

My method of honey and wax harvest, Glen McCoy, Alexandria Apiaries, Alexandria, Minn.

Questions and discussion, Glen McCoy, M. H. Haydak, and C. D. Floyd.

THURSDAY, JANUARY 19  
Room 307 Coffey Hall

9:00 A.M.—

Preparing your colonies for the honeyflow, M. H. Haydak.

10:00 A.M.—

Honey handling, C. D. Floyd.

1:30 P.M.—

Getting more seed from your legumes, A. G. Peterson.

2:30 P.M.—

Consequences of bee diseases and their treatment, T. A. Gochnauer.

7:00 P.M.—

How we prepare and present honey exhibits, Helen Bunch, Helen Apiaries, Welch, Minn.

Questions and discussion, Helen Bunch, M. H. Haydak, and C. D. Floyd.

#### FRIDAY, JANUARY 20

Room 307 Coffey Hall

9:00 A.M.—

The life of the queen, M. H. Haydak.

10:00 A.M.—

Wintering bees in Minnesota, M. H. Haydak and C. D. Floyd.

1:30 P.M.—

Movies, question, and discussion, M. H. Haydak and C. D. Floyd.

#### Southern Minnesota Association Janesville, January 8th

The Southern Minnesota Association will meet Sunday, January 8th, in Janesville. The theme for the meeting will be Package Bees. Speaker Lyon Bros, Anthon, Iowa.

Harry Stewart, Secretary  
Winnebago

#### Jackson County (Michigan) Jackson, January 12th

A meeting of Jackson County, Michigan, beekeepers will be held in the Jackson County Agricultural Room Annex B-1, first building east of the high school. The topic will be "Queen Rearing."

Fred C. Sackrider  
County Extension Director

#### The Midwestern Association Kansas City Mo., January 8th

The Midwestern Association will hold its regular monthly meeting at the I.O.O.F. Hall, 812 Westport Road, Kansas City, Missouri, Sunday, January 8, at 2:30 P.M. There will be installation of the officers for 1961, also plans for the coming year.

Refreshments will be served. Please attend.

James A. Worrel  
Secretary

#### Bristol County (Mass.)

North Dartmouth, January 21st  
On Saturday, January 21 the Bristol County Association will hold its 7th Annual Banquet meeting at Stevenson's in North Dartmouth, Mass., at 6:30 P.M.

This will be a catered dinner of roast chicken and/or roast beef with all the trimmings. Colored slides will be taken of all the members present and the whole affair; and as a guest speaker we will have Mr. Milo Bacon, Chief Apiary Inspector of Massachusetts.

Of course, slides will be shown of our 6th Annual Banquet held at the same location in 1960. This should be a lot of fun. There will be two door prizes for the ladies and two for the gentlemen. We will, also, have

an anniversary cake of which pieces will be cut to take home. Anyone of the beekeepers of another county who wishes to come to this banquet, please, send card or phone Mrs. Mary V. Maslanka, Corresponding Secretary, 16 Homer Street, New Bedford, Mass. Telephone: Wyman 4-0003 before the deadline date, January 14, 1961 for reservations.

Mary V. Maslanka  
Corresponding Secretary

#### Northeastern Kansas Association Kansas City, January 6th

The Northeastern Kansas Association cordially invites all of its members AND ANY OTHERS INTERESTED, to attend the meeting of the association which will be held 2:30 P.M., Sunday, January 8th, in the IOOF Hall, 2107 Silver Ave., Kansas City, Kansas. (Ground Floor.) (Argentine District.) Turn south from Metropolitan Ave. at Stop Sign just west of 18th St. Express Way, proceed 1 block south, turn west and park, on Silver.

Miss Myrna Wilkins, daughter of our vice president, will speak regarding her stay in Costa Rica. Miss Wilkins is a student of Kansas University at Lawrence who was chosen as an exchange student for one of Costa Rica's. She will reveal interesting facts pertaining to her trip and schooling there.

We plan to show a film "BEES FOR HIRE" one of the best bee films in circulation.

Refreshments will follow the meeting adjournment.

Plan to attend this meeting of a Growing Organization. Help make it the largest, and JOIN.

R. F. Ferguson  
Association Editor

#### Middlesex County, (Mass.) Waltham, January 28th

The Middlesex County Assn., Massachusetts, will have a meeting at the Field Station in Waltham, 6:30 p.m., January 28th.

To begin the new year Mr. Al Baptiste will lecture on the installation of a package of bees. This will give beginners ample time to ask questions before an actual demonstration takes place in April.

At our November meeting the winter series of instruction began with an informative talk on "Wintering." Guests are cordially invited to the winter meeting.

Betty Carlson  
Corresponding Secretary

(Please turn the page)



Cook Du Page, Illinois, Annual Winter Meeting - Como Inn, Chicago, Saturday, February 18th

Just a reminder to you beekeepers and friends to keep the above date open for the afternoon and evening to attend this meeting at this splendid restaurant, COMO INN, located at 546 N. Milwaukee Ave., and Ohio Streets which is 5 minutes from the Chicago Loop by bus or subway. Can be reached by auto on the Northwest Tollway leaving same at Augusta which is within a couple of blocks of the restaurant. Plenty of parking space is available.

This will be your opportunity to hear Dr. E. C. Martin, Michigan State University whom we are honored to present as well as our old friend Dr. Milum, University of Illinois who will show his slides on his trip in Europe the past summer. Others of note you will want to hear and meet again are Allan Root, from Gleanings, Art Kehl and we do hope Dr. Cale.

You are asked to direct reservations as soon as possible to Arthur E. Corey, Pres., 417 No. Ridgeland, Oak Park, Illinois, phone VI-8-0366.

You will be sorry if you do not attend, so why be sorry.  
Ralph O. Klebes  
Publicity

**Worcester County (Mass.)  
Worcester, Jan. 21**

The January meeting of the Worcester County Association will be held at the Worcester County Extension Service, 36 Harvard Street, Worcester, on January 21.

A pot luck supper will be served starting at 6:30. After the business meeting, slides will be shown.  
Glenn T. McLain, Jr.

**Michigan Meetings, East Lansing  
Michigan State University  
Feb. 1-2**

Date: Wednesday, February 1 and Thursday, February 2.

Place: Room 101, Kellogg Center, Michigan State University, East Lansing, Michigan.

Time: 10:00 a.m. Sharp.

The first day is the Professional Beekeeping program, and the second day the Bee School program. The meetings are held during Michigan State University's Annual Farmers' Week. Dr. W. E. Dunham of Ohio and other speakers will be on the program. All beekeepers are welcome.

E. C. Martin  
Entomology Department  
Michigan State University

# The Federation

As this is written the Federation is nearing the end of its fiscal and membership year. It is a time for stock-taking; a time to see what was accomplished and what was left undone; a time to consider what should be done in the future.

A short resume of the past year's achievements and possible future aims follows:

*Membership up more than 100 over 1959.* Although 1960 members will continue to come in until the end of the Omaha convention, to date well over 1100 beekeepers have paid 1960 dues. The 1,000th 1959 member was not reached until the middle of the Phoenix convention in January of 1960. Since a large membership is needed to carry out the objectives of a national association, this modest increase is encouraging. Yet it is only a small fraction of the members we need to really advance the bee industry.

*Funds will show slight increase.* While exact figures will not be available until the close of the fiscal year, on December 15, overall money collected during the year will exceed last year by a small amount. Money, like membership, is essential for our organization to advance the bee industry.

Each year more money is required to cope with increasing costs, and to try to do more for the bee industry.

*Insurance programs started.* A group life insurance program was made available to Federation members on May 1. A liability program for Federation members started on September 1. During 1961 we hope more insurance programs will be available.

*New approach to industry problems may be sought.* With a change in ad-

ministration in Washington, it is time to re-evaluate what is desired in the way of legislation and research from the Federal Government. Do we want self-help programs? More research? Import restrictions? Direct government subsidies? Or less government support?

Whatever is decided will require work and time to accomplish. Come to Omaha and make your views known on what you want.

*Honey Queen Program can serve us better in future.* The first two years of the National Honey Queen program have been very successful in publicizing honey. Yet we can do even better in the future. Likewise some states obtain lots of publicity from their state queens. Others aren't as well organized yet. They could take advantage of the experience of states that obtain a lot of publicity from state queens.

*Spence's appointment is attempt to better publicize the bee industry.* The Federation hopes to better publicize the industry in the future. The appointment of Henry Spence, Jr. is a step in this direction. Henry will get the bee industry and the Federation more recognition by sending articles and news to the newspapers, radio and TV stations.

*Annual convention is improving.* The annual Federation Convention has become a meeting place for beekeepers, packers, apiary inspectors, supply dealers, and research workers. Each year the convention seems to improve. The decision of research workers to meet every other year with the Federation is a forward step. The honey queen program is becoming a highlight of the convention.

## Note to Secretaries and Meeting Reporters

If reports of past meetings are not used in the issue for the succeeding month or immediately thereafter, it will be because there is not enough room for them and for current meeting notices. In this issue four entire pages are taken up with dated meetings so there was no room for reports.



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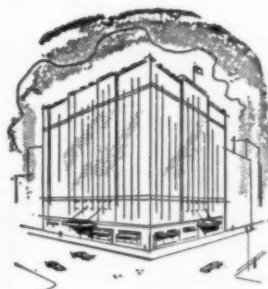
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**SUGAR** Best Quality cane, double saving to beekeepers. McClain, 12491 Lacey, Hanford, California.

**APIARIES:** For sale or lease. Write Lester Edwards, Piper City, Ill.

**FOR SALE:** Equipment for 60 colonies including 10-frame woodenware, extractor, tank, etc. Split sales considered. Arthur W. Foshtil, 1114 N.W. 7th St., Fairbault, Minnesota.

## HONEY FOR SALE

**WHITE CLOVER HONEY** in sixties. Ralph Gamber, 911 State, Lancaster, Pa.

**WE CAN SUPPLY NICE** white honey. Immediate delivery. Russell Smalley, Beaver, Iowa.

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**ORANGE BLOSSOM HONEY**—100% Pure, delicious, white, heavy bodied, in 60's, 20c per lb. For 5 cans or more less 5%, for 10 cans or more less 10% Ex warehouse, New York. Sample 25c will be applied against purchase. R. B. Willson, Inc., 250 Park Avenue, New York 17, New York.

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**WANTED**—extra white, white and light amber honey in 60 lb. cans. Cloverdale Honey Co., Fredonia, New York.

**WANTED**—Extra white and light amber honey. Let us ship you the containers. Sell us your honey for CASH on delivery. The Hubbard Apiaries, Manufacturers of Bee Supplies and Comb Foundation, Onsted, Mich.

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**WANTED:** TWO experienced men to help produce package bees and queens, March to May 1. Chance for permanent position for one. H. C. Short, Fitzpatrick, Alabama.

**SITUATION WANTED:** Have experience in queen rearing and honey production. Have some honey in 60's. Hubert Martin, Dryridge, Kentucky.

**WANTED:** Experienced beemen for 1961 season. Charles Johnson, 428 Church St., Empire, California.

**WORK WANTED** with bees in South or North, age 48 write for information. Earl Shaw, Henning, Minnesota.

**HELP WANTED:** In large bee business. Top experienced help. Also one helper. Give details of your apiary experience and truck driving. Could work part of bees on share crop basis if qualified. M. E. Ballard, Roxbury, New York.

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WANTED 500 colonies in Midwest in two 10-frame standard brood bodies. Write full information. Box BM c/o American Bee Journal.

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## ... ADVERTISING INDEX ...

Aeppler Co., C. W. ....	30	Leahy Mfg. Co. ....	31
Alvies, Dan ....	3	Lott Bee Co. ....	36
American Bee Journal ....	32, 36	Lotz Co., August ....	29
American Rabbit Journal ....	36	Marshfield Mfg. Co. ....	31
Anderson, B. A. ....	35	McClain, E. F. ....	36
Anderson, O. K. and Son ....	29	Mitchell's Apiaries ....	3
Baker's Apiaries ....	34	Myers Craft Co. ....	36
Bee World ....	3	Neiman Bros., Inc. ....	38
Bessonet Bee Co. ....	36	Norman Bee Co. ....	34
Blue Bonnet Apiaries ....	3	O'Ferrell, J. L. and Sons ....	4
Bordelon, E. J. ....	3	Plant, W. E. ....	35
British Bee Journal ....	35	Puctt Co. ....	5
Burleson & Son, T. W. ....	36	Reams, W. D. ....	3
Calvert Apiaries ....	37	Rives, J. C. ....	34
Chrysler & Son, W. A. ....	35	Root Co., A. I. Inside Back Cover, 3	
Cobana Products ....	34	Rossman Apiaries ....	29
Coffey Apiaries ....	4	Sawyer, M. D. ....	38
Conneaut Can Co. ....	3	Scottish Beekeeper ....	4
Couch, Louis L. ....	4	Shackelford, John S. ....	34
Curtis & Sons, Geo. ....	35	Star Bee Farm ....	4
Dadant & Sons .... Inside Front Cover, Back Cover		Stewart, Frank G. ....	35
Daigrepont Apiaries ....	36	Stoller Honey Farms ....	3
Dumars, Harlan, and Phelan ....	3	Stover Apiaries ....	33
Early, Feed, and Seed, Ltd. ....	3	Strachan, Don J. ....	3
Forehand & Sons, W. J. ....	3	Straub, W. F. & Co. ....	38
Foster, Walt ....	3	Taylor, Stewart ....	34
Garon Bee Co. ....	36	Walker-Lee Co. ....	36
Griffith, W. C. ....	36	Wax Workers Inc. ....	35
Harper, Carlus T. ....	34	Weaver Apiaries ....	37
Honey Sales Co. ....	35, 37	Weaver, Howard & Sons ....	36
Hotel Paxton ....	29	Wenner, C. G. ....	4
Hutchison Mfg. Co. ....	36	White Pine Bee Farms ....	37
Jackson Apiaries ....	35	Wilbanks Apiaries ....	37
Jensen's Apiaries ....	34	Williams, Dr. A. C. ....	3
Johnson Co., Carl E. ....	3	Williams Bros. Mfg. Co. ....	28
Kelley Co., Walter T. ....	5, 37	Winslett, D. T. ....	35
Koehnen & Sons, C. F. ....	37	Woodman Co., A. G. ....	31, 37
		York Bee Co. .... Inside Front Cover	

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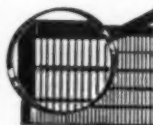
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Extra Caucasian Queens	1.45	1.35	1.25

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4 lb. pkg. with young laying queen	6.75	6.50	6.25	
Extra Queens	1.50	1.40	1.30	

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	Queens	2 lb.w/q	3 lb.w/q
1 to 24	\$1.40	\$4.50	\$5.65
25 to 100	1.20	4.25	5.40

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CALVERT APIARIES

Calvert, Alabama

# Crop and Market

by M. G. Dadant

## MOISTURE

From eastern New York south and west into Virginia and West Virginia, and through the states of Pennsylvania, Ohio, southern Michigan and clear over into the prairie states, extending also into eastern Montana, there has been a dry belt of territory which has not as yet been sufficiently moisturized to bring about normal conditions.

Similarly, such conditions apply in a good part of Florida. In-between is a belt representing most of the southern states and extending through Texas, Oklahoma and northward into Kansas and Missouri which is a very good moisture belt. This also is represented in Wisconsin, Michigan and on into the Ontario and eastern provinces of Canada. Western Canada apparently is dry except for British Columbia.

Conditions seem to be approaching somewhere near normal in the intermountain territory with fairly good snows and on the west coast. California particularly, has much more moisture than a year ago so that conditions look like what we might call "bright" for the coming season.

## HONEY ON HAND

Stocks are moving quite satisfactorily throughout all the territories although there has been an influx of some imported Argentine honey which has had an effect more on the East and extending as far as Michigan westward. We see no particular signs of a slump in the markets farther west than this, or really very much in California. We might say, however, that at this season of the year there usually is a little letup in offers on honey because of the fact that packers are desirous of holding their lots low for the incoming of the new year. There is no doubt, however, but that

the imported honey has had a slight effect on the markets and has tended to make for a weakening in the bulk markets.

## SALES

Sales have been good almost throughout the country although reported only fair in the Southeast and extending perhaps into Texas. Lots on hand, however, do not warrant the assumption that there will be much if any carry-over for the new crop year. Sales have been particularly good in Canadian provinces and it is apparent that Ontario will have more nearly a cleanup of honey than they have had in several years as they have usually had considerable carry-over.

Retail sales have remained good no doubt due partly to the effect of the "Folk Medicine" sales of this book which has tended to carry along with it a demand for honey.

## PRICES

Prices in bulk do range just a little lower than they were a month ago particularly in the central western territories. We do learn, however, that what little Montana honey is left is being offered at a price of 16 cents and a price of 15 cents is being obtained where sales are made. Intermountain territory seems to be holding quite well as does even the western coast territory on good white honey. In the central areas there have been some quotations as low as 13 cents on light honey. One or two we have heard of at 12½ cents, although the bulk of offers and sales are on the basis of about 14 to 14½ cents for

good white honey and about 2 cents less on amber, ranging considerably less than this on amber in the California territory.

All in all, sales are quite satisfactory in view of the holiday season and should pick up after January 1 when efforts are again evident on the part of packing organizations.

We do believe, however, that the influence of importations of white Argentine honey, if not watched closely, will have some effect on our price this year unless there is a demand from abroad and even in that case it will mean the replacement of some of the sales which are being made abroad. Argentine seems to be the only territory which seems to be able to compete in the quality of honey with good white western alfalfa and sweet clover honey.

## SUMMARY

All in all, bees have gone into winter in very excellent condition with ample stores although the warm fall may mean that the bees have used up their stores to some extent and will have to be watched when the spring season comes.

Beekeepers generally seem to be in fair shape in central territories and there has been a deficiency in moisture, rains being considerably under par in a band through the central areas as mentioned above.

Snows, of course, could help this. There has been no freezing of the ground except in the northern areas. Honey plants are in good condition in spite of the drought. In other words, the drought did not come early enough to kill the leguminous plants and they should go through in a quite satisfactory condition.

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3-lb. bees with young queen	4.80	4.60
Queens 1-10—\$1.20 11-100—\$1.10 100 or more—\$1.00		

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May we have the privilege of serving you.

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It gets its strength from special scientific processing plus a construction of 3 sheets fused under pressure. Three plies like ply-wood are stronger than a single sheet. The added strength means no cell distortion, more worker cells to the

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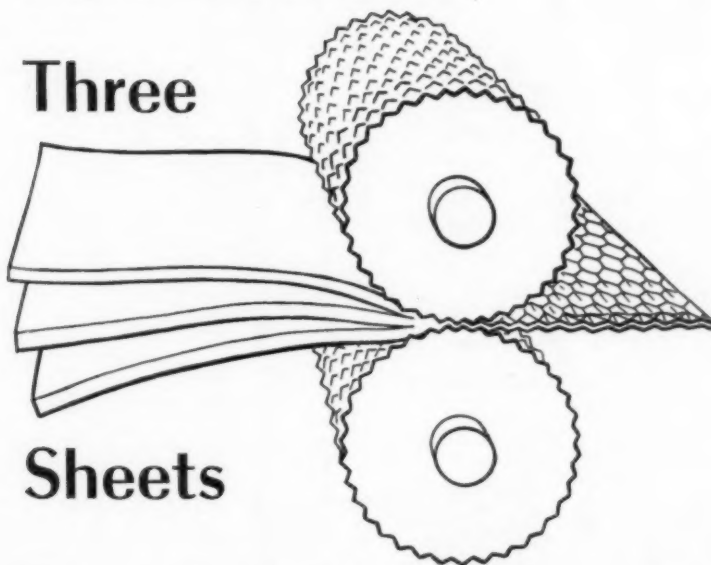
comb, and less breakage in the extractor.

New 3-Ply also has the advantage of rapid acceptance by the bees, because it contains only pure beeswax and is formed on special AIR-CO mills.

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## Pure Beeswax

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## Sheets

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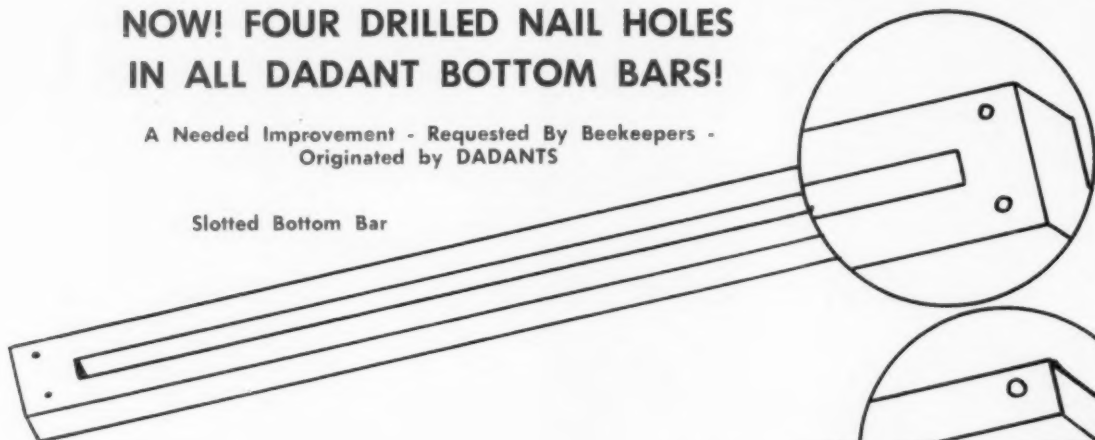
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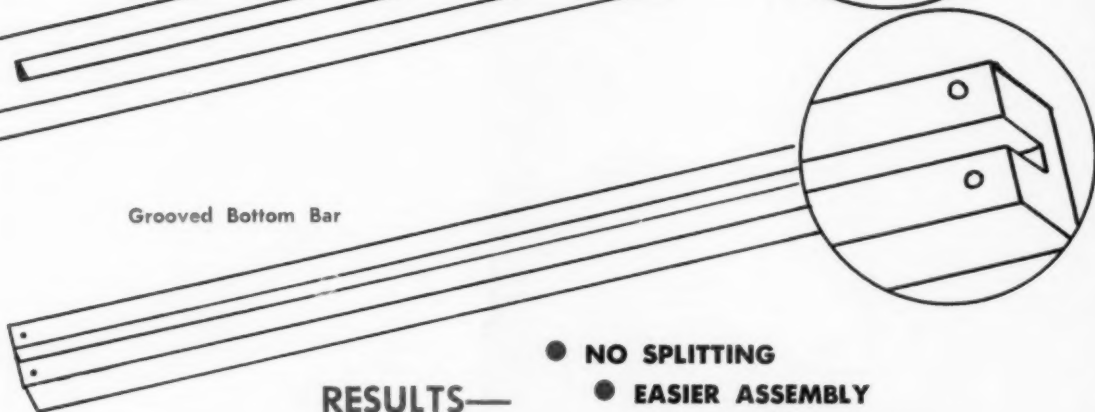
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